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Tax Regimes and Revenue Performance in Developing Countries: A Comparative Evaluation of Kenya

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Abstract

The enduring theme of tax regime is at the core of debate in a vast majority of economies as they adopt legislations that are perceived to suit their existential fiscal obligations. Notwithstanding the fact that Kenya's tax revenue performance has been on the upward trend in terms of revenue growth, concern has been raised that in the past few years; the East African nation has not been meeting its set revenue targets. The pressure has been exacerbated by the perennial ballooning budget deficits coupled with the slow growth in the country's gross domestic product (GDP). The study evaluates the effect of the country's multiple tax regime on its revenue performance in comparison to other tax jurisdictions. Underpinned by benefits theory, economic deference theory and expediency theory, the study adopts explanatory design to highlight the relationship between the predictor, tax regime and the expected outcome, tax revenue performance. Secondary data was gathered from empirical studies relating to 16 randomly selected developing and developed economies, recorded over a period of 15 years. Diagnostic test results are presented in tables, whereas trend analysis results are presented in graphical charts. Inferential statistics is analyzed through correlation and multiple regression analysis, and results presented in tables in tandem with study objectives for purposes of interpreting the hypotheses tests results. Primary data was also collected using structured questionnaires and administered using survey monkey to respondents across the globe. The findings are presented in tables and charts. The results from the findings reveal that of the developing economies, Kenya has been posted the second highest variation of 34.50% in terms of the effect of tax rates of domestic taxes on tax to GDP ratio. The relationship between tax rates and revenue performance was statistically significant with p- value of 0.008. Consequently, the null hypothesis relating thereto was rejected. On the other hand, the findings reveal that Kenya had the least number of cases resolved through dispute resolution mechanism, and also the lowest tax administration staff compared with the other countries studied. Based on the results of the inferential statistics, the study was able to establish that there was a positive and significant relationship between tax structure and revenue performance in developing countries. This is underpinned by the correlation and regression findings where the study showed that for any unit increase in Corporate tax, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases for a number of developing countries including Kenya ($\beta 1=0.621$, $p= 0.008$), India ($\beta 1= 0.645$, $p= 0.005$) and Rwanda ($\beta 1= 0.684$, $p= 0.002$). The study therefore recommends pro rata adjustments to tax

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rates for the various tax heads as this is expected to augment the tax base, and consequently enhance tax revenue performance for sustainable economic development

Key words: Tax Regimes, Fiscal years, Revenue performance, developing economies, GDP.

1. Introduction

Tax revenues are fundamental to state development; in terms of funding infrastructure and redistribution and creating a fiscal social contract between government and citizens. If revenues are not adequate to cover requisite expenditure in areas such as infrastructure, health and education, this becomes a critical constant (Forstater, 2018). Generally, citizens are prepared to pay taxes if it is perceived to be fair, especially if they feel that the taxes are utilized for purposes that benefit them.

This paper explores the issue of policy coherence across developing nations in terms of tax structure, tax rates, systems, procedures and legislative framework. Taxation is by and large the most important source of government revenue for most countries globally. According to the most recent estimates from the International Centre for Tax and Development, tax revenue accounts for more than 80% of total government revenue in half of the countries of the world, and more than 50% in almost every country. (Ortiz-Ospina and Roser, 2018).

Available data according to OECD (2018) shows that taxation patterns around the world today exhibit large cross-country differences, especially between developed and developing countries. Developed countries collect a larger proportion of their national output in taxes than compared to developing nations; and they tend to rely more on income taxation. On the other hand, developing countries tend to rely more heavily on trade taxes as well as on consumption taxes such as value added tax (VAT) and excise duty. Tax policy is concerned with the design of tax systems, tax base, composition of tax, rates structure.

The OECD findings show that developed countries collect much higher tax revenue than developing countries despite comparable statutory taxation rates, even after controlling for underlying differences in economic activities. This suggests that cross-country heterogeneity in fiscal capacity is largely determined by differences in compliance and efficiency of tax collection mechanisms. Both of these factors are ostensibly affected by the obtaining political institutions.

1.2 Statement of the Problem

A typical developing economy collects just 15% of GDP in taxes, compared with the 40% collected by a typical advanced economy. The ability to collect taxes is central to a country's capacity to finance social services such as health and education, critical infrastructure such as electricity and roads, and other public goods. Considering the vast needs of poor countries, this low level of tax collection is putting economic development at risk (Akitoby, 2018).

Government tax revenue as a percentage of gross domestic product (GDP) in developed countries accounts for 30%, whereas it averages below 16% in developing countries, most of which are in Africa (Don & Miler, 2018; OECD, 2018). According to OECD (2019), the tax to GDP ratio declined by 0.1% in the 2018/2019 fiscal year to 18.3%.

In Kenya, the revenue administration is under pressure to raise tax revenue. The economy has been growing at an average rate of about 5% for the last five years, with an expansive informal sector that employs about 70% of the population (KNBS, 2018). The tax to GDP ratio has remained at an average of about 18% for the last three years (OECD, 2019).

Kenya is a high effort low tax collection country (Le, et al., 2008). The tax base has remained constant with a high tax burden on the formal sector. Tax evasion is rampant, even after several tax reforms. Revenue targets continue to fall below the targets set by the National Treasury. KRA managed to collect only KShs.1.580 trillion against set target of KShs.1.643 trillion. This is a matter of grave concern that calls for critical interventions to address the phenomenon through a coherent, multidisciplinary, policy and structural framework with reference to the best performing fiscal systems globally. Table 1 reflects a sample of some of the countries tax to GDP ratio.

Table 1.1: Tax Revenue % of GDP

Country	Tax Revenue as % of GDP
France	39
U.K	34
Germany	29
Brazil	20
U.S	19
Canada	18
Russia	17
Pakistan	15
Indonesia	15
Kenya	18.3
Morocco	13
India	10

Source: OECD (2019)

There have been substantive studies to the effect that the nature of a tax system determines the revenue yield (Ade, et al., 2018) A tax system constitutes of the tax structure which is the mix of the various taxes, tax bases, tax administration and the statutes. Countries can choose various combination of taxes to raise revenue. Developed countries rely more on the direct taxes while developing countries rely heavily on indirect taxes such as value added tax due to ease in administration (Burgess and Stern, 1993; OECD, 2019). There is no consensus as to the best mix of taxes to increase revenue. The various measures of tax system performance that have been developed do not give any pointer to this (Gill, 2000; Gallagher, 2005).

The overriding question is how developing countries can make informed decisions on the best tax systems and structures to increase revenue/raise sufficient revenue for development. This paper examines how the tax regime affects revenue performance in various countries to shed more light on this.

1.3 Research Objectives

The broad objective of the study is to investigate by way of a comparative study, the effect of tax regimes on the revenue performance in Kenya.

The specific objectives are: -

i. To determine the effect of tax structure on revenue performance in Kenya
ii. To determine effect of legislation on revenue performance in Kenya
iii. To determine the effect of socio-economic factors on revenue performance in Kenya
iv. To establish the influence of tax administration on revenue performance in Kenya

1.4 Research Hypotheses

The null hypotheses for the study were:

H01 Tax structure has no significant effect on revenue performance

H02 Legislation has no sig=nificant effect on revenue performance

H03 Socio-economic factors have no significant effect on revenue performance

H04 Tax administration has no influence on revenue performance

1.5 Significance of Study

The outcomes of this study are expected to inform policy formulation by the Government of Kenya and improve administrative practices of the Kenya Revenue Authority in order to enhance revenue performance. Arising from its findings, the study is expected to provide a platform for future research to augment the horizons of knowledge for purposes adopting effective reforms in taxation and tax administration. The study findings are also expected to add value for managerial practice, particularly to tax managers with a view to enhancing revenue collection through capacity building borrowed from best practices.

1.6 Scope of Study

The tax jurisdictions to be included for the comparative study with Kenya are Brazil, Ghana, India, Indonesia, Mauritius, Rwanda, South Africa, Ukraine, Japan, Netherlands, Canada, New Zealand, Sweden, Australia and Singapore. The study covers a period of 15 years (2001-2017). These countries provide a representative scope of developing and developed countries for the sake of comparative evaluation. The sample size of 16 countries is considered adequate.

2. Literature Review

2.1 Theoretical Framework

The study is guided by the five overarching theories, including social contract theory, ability to pay theory, benefits theory and economic deterrence theory. Extant relevant empirical literature and conceptualization of tax regimes have also been reviewed to underpin the study for analytical comparative discourse.

Social Contract Theory

The study is based on the social contract theory. Social contract theorist Hobbes, Locke and Rosseau (2013) propose that the public pays the government by way of tax to provide basic amenities in order to promote social order, economic growth and protection of human rights . Taxes are important source of revenue and the revenue collection is one of the most important functions performed by the state and enables it to sustain itself . It is therefore incumbent upon governments to protect public revenue.

Ability to Pay Theory

The ability to pay theory proposes that a taxes should be based on a taxpayer's ability to pay (Kendrick, 1939).The theory is grounded on equity and expediency, thereby postulating that tax payers should contribute to the finance of the state according to their ability. The rationale of this theory is that taxes paid are seen to be a sacrifice by the taxpayers and there exists no commercial relationship between the government and taxpayers. The ability of the taxpayer should therefore be put into consideration when levying taxes. The theory raises the issues of what the sacrifice of each taxpayer should be and how it should be measured. The theory posits that there should be equal sacrifice in the following senses: The loss of utility as a result of taxation should be equal for all taxpayers. This places an increasing tax burden on taxpayers with higher income.

Adam Smith (1776) used the ability concept to support proportional income taxation, i.e. taxation at a constant percentage of income:

"The subjects of every state ought to contribute toward the support of the government, as nearly as possible, in proportion of their respective abilities; that is, in proportion to the revenue

which they respectively enjoy under protection of the state. The expense of government to the individuals of a great nation, is like the expense of management to the joint tenants of a great estate, who are all obliged to contribute to their respective interests in the estate." (Wealth of Nations, p. 777).

E.R.A. Seligman built upon Smith's school of thought to find a justification for a progressive tax via an ability-to-pay principle. This doctrine holds that the more money a person has, the relatively easier it is for him to acquire more. His power of obtaining money is supposed to increase as he has more: "A rich man may be said to be subject ... to a law of increasing returns."

Benefits Received Theory

A third relevant theory is the benefit principle (previously referred to as the "exchange theory"). The theory posits that that households and businesses should only pay for something only if they get to benefit from it. This theory, however, has been delimited on the basis that it has to a large extent been supplanted by the theory of ability to pay and it has declined as far as determination of the amount of tax liability is concerned, but it remains relevant in the debate on taxing jurisdiction in an international context (Bird & Slack, 2014; Wicksell 1896; and Lindahl, 1919). The principle of benefits received and ability to pay provide useful criteria to assess the fairness of any particular tax.

Economic Deterrence Theory

The economic deterrence theory states that the behaviour of a tax payer is usually influenced by the factors which determine the benefits and costs of tax evasion. This theory was derived from the theory of criminology as postulated by Becker (1968). It was further developed by Allingham and Sandmo (1972) and Sandmo (2005). It is premised on the belief that individuals are aware of consequences associated with criminal behavior, hence they will decide whether or not to comply, depending on the costs associated with the behavior .

Expediency Theory

A relevant theory too is the expediency theory . This theory proposes that tax proposals must pass the test of practicability. The tax administration should be able to levy and collect the taxes effectively. According to the theory, practicability of tax is the must be the only consideration and the economic and social objectives of the state are irrelevant (Bhartia, 2009). This theory has been criticized on the basis that it ignores the role tax policy in promoting social welfare, economic growth, equity and stabilisation. Further, it does not also help the state with the choice between different practical taxes.

Despite the pitfalls, expediency theory is important to promote legislation of tax laws that are practical. A tax that cannot be implemented is of no use. A state can apply the theory together with other theories that address objectives of the state and the citizenly. Practicability of tax regime is key, but the state should not lose sight of its social and economic objectives such as stability, equity and economic growth when making tax proposals.

Fiscal Exchange Theory

The Fiscal Exchange Theory evolved from economic deterrence and social psychology models. It was premised on the existence of a social, relational or psychological contract between the government and taxpayers. (Fjeldstad et al., 2012).

The theory affirms that the government expenditure serves as a motivating factor for taxpayer compliance especially when the taxpayers value the goods and services they perceived to be receiving from the government. (Bello & Danjuma 2014). Taxpayers will be more willing to comply when they are satisfied with provisional services from the government.

Empirical Studies

Tax regime refers to any legislation, regulation, or administration practice that provides a preferential effective rate of taxation to interests, royalties, dividends, business, employment and other incomes, including through reductions/increase in the tax rate or tax base. According to OECD (2013), tax regime is the mechanism of tax rate, regulations and scope that comprise the taxation approach or philosophy of a government.

Various studies on the determinants of tax revenues in Kenya reveal the following: There is a significant relationship between GDP and tax revenue (Ombati, 2018). A poor tax performance, in terms of raising revenue can either mean deficiencies in tax structure or an inadequate effort on the part of the government, both of which are influenced by various factors (Oloo, 2012). Tax reforms have a significant and positive influence on tax revenue (Ombati, 2018). In evaluating the effect of tax regimes on revenue performance, this paper focuses on specific elements of the tax structure, namely, tax administration, tax rates and tax dispute resolution.

Tax Administration

Tax administration is implementation of the tax law. It involves identification of tax liability, making tax assessments and collection (Odd-Helge and Lise, 2003). Usually, this role lies with the Ministry of Finance. The state may also give this role to an autonomous tax administration authority as part of the executive agency model. The World Bank and the International Monetary Fund (IMF) have pushed for the establishment of revenue authorities in developing countries to enhance revenue collection.

Many African countries established revenue authorities in the 1990s to administer taxes as part of tax modernisation reforms to mobilise domestic revenue (Devas, et al., 2001). The revenue agencies enjoy some degree of autonomy from the state. This is meant to limit political interference. The revenue authority is able to recruit independently or provide incentives to motivate its employees and create dedicated focus to revenue collection. However, in many developing

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countries revenue collections spiked with the introduction of a revenue authority followed by a period of revenue stagnation or slow growth (Odd-Helge and Lise, 2003; Taliercio, 2001). This is attributed to limited autonomy, political interference and corruption.

Ghana was the first country in Africa to establish a revenue agency in 1985 prompted by the inefficiency in tax administration system that existed then. This was followed by Uganda in 1991, Zambia 1994, Kenya in 1995, Tanzania and South Africa in 1996 and Rwanda in 1998, among other countries (Devas, et al., 2001).

Table 2.1: Year of establishment of Revenue Agencies in various countries

Country	Year of establishment of Revenue Agencies
Kenya	1995
Ghana	1985
Nigeria	2007
Brazil	1968
India	1953
Rwanda	1998
Mauritius	2004
Zambia	1994
Indonesia	1976
South Africa	1996
Tanzania	1996

Source: Devas, et al., 2001

Tax systems should have transparent and simple rules and procedures of administration (Tanzi and Zee, 2000). Autonomy should be accompanied by clear responsibilities, proper monitoring and public accountability to avoid misuse by rent seeking individuals.

Tax Rates of different countries

Recent data has reflected significant correlation between corporation tax rate and GDP. High tax rate stifles economic growth. However, this depends on control of budget deficits and national debt of a country (OECD, 2019). Lower corporation tax has been found to boost economic growth. Many countries have reduced corporation tax rates in OECD countries between 2000 & 2018. For example, Germany reduced corporation tax rate from 50% - 28.5% in the late 1990s. Ireland has the lowest rate at 12.5% the lowest among the OECD countries. On the other hand, U.S. has changed its Corporate tax only once during Regan's regime, since 1987 from 50% to 28%. This boosted and stimulated economic growth. Capital would move more effectively and rapidly with the change in tax rates. This has impacted correspondingly in the GDP growth over the past. Reforming tax systems in developing world (Don & Miller. 2018). Individual Tax Rate change, on the other hand has had mixed impact on economic growth with respect to education and inflation. In their study, Mukhtar et al. (2001) averred that generally compliance accelerates as the level of income increases but at a decreasing rate. Notably, individual tax payers have a propensity to comply less as the marginal tax rates rise. This phenomenon is largely manifest in the higher income earners than the low income tax payers.

A study to ascertain the level of causality of Foreign Direct Investment and taxation amongst other variables on collected tax revenue in the SADC region found that tax revenue collected in the SADC is sensitive to tax rates (VAT and CIT rates) and tax policy harmonization variables. The study report states the results generally provide empirical support for anecdotal evidence that tax rates and tax policy harmonization ultimately determine the amount of tax revenue collected in countries and regional groupings (Ade, et al., 2018).

Different tax regimes have adopted different tax rates for various factors. The factors include the need for more revenue to meet budgetary needs, to provide funds for development and to enhance service provision.

The taxation system in Brazil, for instance, is quite complex, considering that it has over sixty forms of tax. Historically, tax rates were low, and tax evasion and avoidance very rampant. Between the years 1998 and 2004 efforts were made to make revenue collection more efficient culminating in increase in tax to GDP ratio from 13.8% in the 1980s to 37.4% in 2005. Tax revenue collection has become high by international standards, but without realizing commensurate social benefits to the citizenry. More than half of the total tax structure is regressive in nature arising mainly from corruption.

In Afghanistan, the Corporate tax on residents is 20% on total amount of income during the tax period. Business Receipts Tax (BRT) is imposed at various rates on gross revenue before deductions. BRT is credited in computing taxable income for the same period/year at rates of 4%, 5% or 10% of the gross receipts depending on the nature of the business and/or category of receipt. Exemptions for organisations established under Afghanistan Law and operate exclusively for educational, cultural, literacy, scientific or charitable purpose. Income derived from agriculture or livestock production is tax exempt.

In Algeria, the Corporate tax ranges between 19% to 26%. Capital Gains are taxed at 15% whereas withholding tax imposed on dividends, interest and royalties is 15%, 10% and 24% respectively. Angola imposes Corporate tax at the rate of 30% and Capital Gains tax is 30%. Withholding tax is imposed on dividends at 10% and on interest at the rates of 5%, 10% and 15%. Armenia imposes Corporate tax at 20%. Capital Gains are included in the business income and taxed at 20%. Withholding tax is imposed on dividends, interest and royalties at 10%.

In Australia, the corporate tax rate is 30% and Capital Gains tax is 12.5%. Albania imposes a rate of 15% on corporation tax, branch tax as well as Capital Gains. A reduced

corporation tax rate of 5% is however imposed on micro businesses with annual turnover of less 40,000 Euros, software with effect from 1.1.2019 and agriculture corporative, agro tourism (applicable for 10 years following certification). Withholding tax is imposed on dividends at 8% and on both interest and royalties at 15%.

Table 2.2: Tax rates of different countries

Country	Corporation Tax	Capital Gains tax	Withholding Tax		
			Dividends	Interest	Royalties
Afghanistan	20				
Algeria	19 to 26	15	15	10	24
Angola	30	30	10	5-15	
Armenia	20	20	10	10	10
Australia	30	12.5			
Albania	15	15	8	15	15

(Source: ey.com tax guide)

Tax Dispute Resolution Structure

Tax disputes in the context of this study can be defined to mean a contrary view to that of the tax authority. Tran-Nam and Walpole define a tax dispute would be said to take place when the taxpayer takes a contrary view to that of the tax authority on a tax issue. (Tran-Nam and Walpole, 2012). Mutesh Butani in his book Tax Dispute Resolution: Challenges and Opportunities for India identifies inadequate law-making and absence of clear administrative guidelines on interpretative issues as root causes of tax disputes.

Tax disputes typically arise when a taxpayer is aggrieved with the adjustments made by a tax authority to the taxpayer's self-assessment; when a tax authority conducts an audit whether compliance or comprehensive and comes up with audit findings which the taxpayer does not agree with (Tran-Nam and Walpole, 2012 and 2016) or when a taxpayer disagrees with the default assessment issued upon him arising from failure to file his return or assessment or failure to provide tax information which the tax authority has requested for (Kasser-Tee, 2016). The taxpayer will in most cases have opportunity to discuss the findings or adjustments with the tax authority but if the dispute remains, the tax authority issues an assessment, reassessment or demand of payment of tax. The taxpayer then formally objects to the decision of the tax authority. The tax authority reviews the objection of the taxpayer and arrives at a decision.

If the taxpayer is aggrieved with the decision of the tax authority, he appeals from this decision to external bodies. These are quasi-judicial tribunals adjudicated by experts who may or may not have legal training, civil courts of general jurisdiction courts, administrative courts, commercial courts or specific tax courts whose judges or members have expertise in tax matters (UN, 2019). The naming and hierarchy of these bodies vary, based on the jurisdiction. The creation of tax ombudsman bodies has also become more common in recent years, although the names given to these bodies differ. The tax ombudsman is a specialized version of the more general ombudsman. In Australia, it is referred to as the Inspector General of Taxation, which is a body separate from the Australian Taxation Office. In the United States, the Taxpayer Advocate Service is an independent organization within the Internal Revenue Service. Ombudsman bodies in Spanish-speaking countries are commonly referred to as the Defender of the Taxpayer (Defensoría del Contribuyente UN, 2019). The workings and successes of the ombudsman are discussed later in the paper.

It is critical to note that the processes outlined above have timelines prescribed in the law. Failure to meet these timelines, exposes the party in breach to waiver of their respective rights. For example, in Kenya and Mexico, the taxpayer is required to file an objection with the tax authority within 30 days as of the date he is notified of the tax authority's decision (Vazquez, 2019) . If he fails to do so within the timelines provided by law, he will be deemed to have accepted the decision of the tax authority. Similarly, if the tax authority does not respond to the taxpayer within the timelines provided in the law, it will be deemed to have foregone its decision in favour of the taxpayer. In Ghana, an objection decision should be rendered within 90 days (Kasser-Tee, 2016) . The Australian laws require an objection decision to be rendered to the taxpayer within 60 days. The timeline is the same in the Kenyan law. In Mexico, an objection decision should be rendered within 3 months (LACTAX).

Tax disputes between taxpayers and tax administrations can be resolved by various methods and mechanisms. Methods for resolving disputes include negotiation , mediation , arbitration and judicial adjudication. Dispute resolution mechanisms include the tax administrative internal review, Administrative Appeals Tribunals and the courts (Walpole, 2012).

There has been an emphasis on alternative dispute resolution (ADR) as a method of dispute resolution. ADR can be defined as 'an umbrella term of process, other than judicial determination, in which an impartial person … [assists] … those in dispute to resolve the issues between them.' ADR often takes the form of negotiation, mediation and arbitration.

ADR has been embraced in many jurisdictions as a method that enhances efficient dispute resolution: It avoids the expense of tax litigation before the courts, enhances trust and facilitation, and enables technical interpretation of complex tax disputes (Walpole, 2012). Australia adopts negotiation as the principal method for resolving tax disputes and mediation at the Administrative Appeals Tribunal (AAT). The AAT provides an example of formal arbitration, in the sense that it is not private and the outcome is binding on the parties (Walpole, 2012). Ghana has adopted the mediation method of ADR. Kenya uses negotiation and once the tax decision is formally objected to, provides for mediation at any stage of

the review process before a final judgment is given. Unlike Australia's AAT however, the Kenyan Tax Appeals Tribunal exercise judicial adjudication and is recognized by law as a subordinate court.

Conceptual Framework

The conceptual framework in Figure 2.1 reflects the extant relationship between tax regimes and tax revenue performance.

Figure 2.1: Conceptual Framework.

3. Research Methodology

This chapter covers the research methodology applied to meet the research objectives of the study. It sets out the procedures to collect, analyse and report data. It gives the specification of the regression models and an outline on measurement of the variables and he methods of data analysis.

3.1 Research design

The paper adopts explanatory research design. Explanatory design is appropriate for the study, as the research examine the relationships between tax regime and revenue performance. Explanatory research design allows the researcher to identify causes and the reasons a phenomenon occurs (Kerlinger and Lee, 2000).

The study used mixed methods approach, as the research study involves collecting and analysing both quantitative and qualitative data. It used separate procedures for qualitative and quantitative data. Mixed methods provides a more complete picture, from the general descriptions of data and in-depth regression analysis. Mixed approach, albeit time consuming, gives the researcher a greater scope to investigate phenomena (Almalki, 2016).

The quantitative approach applies to panel data. Panel data consists of multiple observations on each sampling unit. The panel data for the study is for tax rates, and socio economic factors of 16countries for fifteen years (2005-2019).

3.2 Target population

The study covers developing and developed countries. The countries are Kenya, Brazil, Ghana, India, Indonesia, Mauritius, Rwanda, South Africa, Ukraine, Japan, Netherlands, Canada, New Zealand, Sweden, Australia and Singapore. These countries provide a representative sample for comparative evaluation. Secondary data for the target population was analysed for the period 2005 to 2019 (15 years).

3.3 Data collection

Secondary data was collected by way of desktop review of literary material, including records, reports and publication. Some of the sources of the secondary data are World Development Indicators by World Bank, Data from KPMG Global on tax rates, OECD and Kenya National Bureau of Statistics (KNBS). Data on dispute resolutions, social economic and tax administration was analysed descriptively. Other sources of secondary data used in this research was obtained from the tax foundation website and the IMF publications. The data was then tested for reliability and validity using Cronbach's Alpha measure and thereafter analyzed using Statistical Package for Social Sciences (SPSS) and Eviews8, and Studio and presented using tables.

Primary data was collected using structured questionnaire which was administered by adopting survey monkey and distributed to respondents across tax jurisdictions. The survey targeted largely officials of the revenue bodies, tax practitioners and other stakeholders in the taxation field in the different countries of study. Statistical tests were conducted on the data to check for reliability. Descriptive and comparative analysis was done for the different countries of study using SPSS.

Model specification and measurement of variables

Multiple regression analysis was used to meet the research objectives. The hypotheses were tested are as follows:

H01 Tax structure has no significant effect on revenue performance

The model used to test the hypotheses is as follows:

Revenue performance = f (tax rates)

The variables were measures as indicated in the Table 3.1:

Table 3.1: Measurement of Variables

Variable	Indicator	Measurement	Source of Data
Tax to GDP ratio	Revenue performance	Tax and GDP at constant US$	WDI (World Bank)
Gini Coefficient	The extent to which the distribution of net income among households deviates from a perfectly equal distribution.	As a percentage; zero perfect equality and one represents perfect inequality.	WDI (World Bank)
Corporation Tax rate	Tax rate for resident	Tax rate	KPMG Global
Personal Income Tax rate	Highest tax rate for resident	Tax rate	KPMG Global
Indirect Tax rate	Standard VAT rate	Tax rate	KPMG Global
Corruption Perception Index	Social economic factor	Corruption perception Index	Transparency International
Education expenditure	Education	As a percentage of GDP (at constant 2010 US$)	WDI (World Bank)
GDP per capita	Income	GDP (at constant 2010 US$)	WDI (World Bank)
Dispute resolution	Legislation	Number of cases concluded in court annually	IMF data
Tax administration	Registration of taxpayers and return filing	Registration of taxpayers and return filing	IMF data

Diagnostic tests were done for statistical assumptions including normality, linearity, multicollinearity, autocorrelation and heteroscedasticity tests.

4. Data Analysis, Findings and Discussion

This chapter encompasses analysis of data, findings and the interpretation of the results. It presents and discusses the main findings of the study as set out in the research methodology. The purpose of the study was to establish the relationship and the significance of relationship between Tax Structure, Legislation, Socio-economic factors, Administration, on the Revenue Collection, Income Distribution and Tax to GDP Ratio in Kenya. The secondary and primary data analysis is presented below. The findings are presented in form of tables, figures and charts.

Section I - Analysis of Secondary Data

4.1 Descriptive Statistics

In this section, the research captured the results of the descriptive statistics from secondary data which covers the following countries namely: Kenya, Brazil, Ghana, India, Indonesia, Mauritius, Rwanda, South Africa, Ukraine, Japan, Netherlands, Canada, New Zealand, Sweden, Australia and Singapore. Social economic factors (Corruption Perception Index), Income (GDP per Capita), Legislation (Dispute resolution), Revenue Performance and Tax Rates formed the study variables and were descriptively analysed using means and standard deviations.

Social Economic Factor- Corruption Perception Index (CPI)

Social economic factors – Corruption Perception Index (CPI) formed the first variable of the study. Figure 4.1 and Table 4.1 shows the results of the descriptive statistics on CPI based on country scores and rank.

Figure 4.1 Corruption Perception Index

Table 4.1 Descriptive Statistics- CPI

From the results above, Kenya is highly ranked in corruption with a CPI score of 137, followed by Ukraine (126) and Brazil (106). On the other hand, Netherlands, Sweden, Singapore and New Zealand posted the lowest CPI score of 8,4,4 and 1 respectively.

From the findings on table 4.1, a mean CPI score of ($\bar{x}$=57.62) with a standard deviation of (std=21.32) was recorded.

GDP per capita

GDP per capita formed the second variable of the study. Descriptive statistics was conducted between 2001-2017. Figure 4.2, Table 4.2 shows the results of the descriptive statistics on GDP per capita

Figure 4.2 GDP per capita

Table 4.2 Descriptive Statistics- GDP per Capita

From the results of the findings for the year 2001-2017, Rwanda had the lowest GDP per capita with a mean score and standard deviation of ($\bar{x}$=USD 558.3, std=139.479) followed by Kenya ($\bar{x}$=USD 949.94, std=113.30) and Ghana ($\bar{x}$=USD 1,312.24, std= 272.167). On the other hand, Sweden had the highest GDP per capita with a mean score of ($\bar{x}$=USD 51,969.88, std=3,620.329) followed by Australia ($\bar{x}$=USD 51,281.71, std= 3,562.87) respectively.

GINI Coefficient

The GINI coefficient shows the level of inequality and ranges from 1-100, with a 100 being perfect inequality and 1 perfect equality.

Figure 4.3 GINI Index

Source: World Bank Development Indicators

India has the highest level of inequality in figure 4.3 with a GINI coefficient of 53 while Kenya has a GINI coefficient of 41. Ukraine has the least of 26.

Legislation- Dispute Resolution

Legislation – Dispute Resolution formed the third variable of the study. Descriptive statistics on Dispute Resolution for the financial year 2016/2017 are shown in Figure 4.4 and Table 4.3.

The data indicate the number of cases resolved and the cases resolved in court. Trend analysis was done to investigate how these relate to the revenue performance.

Figure 4.4 Dispute Resolution

Table 4.3 Descriptive Statistics- Dispute Resolution

From the results of the findings for the year 2016-2017, Netherlands posted the highest number of cases resolved internally, externally and by higher courts through dispute resolution with a mean score and standard deviation internally ($\bar{x}$=519,500, std=26,162.95), externally ($\bar{x}$=5,550, std=212.13) higher ($\bar{x}$=625.50, std=4.95). On the other hand, Kenya was one of the countries that posted the lowest number of cases resolved through dispute resolution with a mean score and standard deviation internally ($\bar{x}$=75.50, std=17.67), externally ($\bar{x}$=48, std =0) and higher ($\bar{x}$=120.50, std=27.577).

Kenya notably recorded a higher number of cases resolved at the higher courts compared with cases resolved internally. The other countries recorded a significant number of cases resolved internally compared with those escalated to the higher courts. For instance, Indonesia recorded 100,081 and 363,406 cases resolved internally in 2016 and 2017 respectively whereas the cases escalated to the higher courts reduced to 1,222 and 2,723 respectively. In South Africa, the numbers reduced from 6,038 and 6,163 internally resolved in 2016 and 2017 respectively to 5 and 28 cases resolved in the higher courts in each year. The statistics demonstrate that more cases are being resolved internally. Resolving more cases internally saves the cost and time in dispute resolution, which translates to increased revenue collection. Kenya should therefore learn from other countries on the internal mechanisms that enhance dispute resolution at the internal level.

A number of developed countries including Netherlands ($\beta 1$= 0.633, p= 0.006) and Sweden ($\beta 1$= 0.575, p= 0.016) posted similar results as developing implying that tax structure has a significant influence on revenue performance.

Tax Administration

Tax administration formed the fourth variable of the study. Descriptive statistics was conducted for the financial year 2016/2017. Tax administration was descriptively analysed in terms of human resources staff total and operating expenditure. Figure 4.5, 4.6 and Table 4.4, shows the results of the descriptive statistics on tax administration.

Figure 4.5:Total number of staff

Source: Research data

Table 4.4 Descriptive Statistics- Tax administration – number of staff

From the results of the findings for the year 2001-2017, Canada had the highest staff in tax administration with mean and standard deviation ($\bar{x}$=38,352, std=531). On the other hand, Singapore and Kenya posted the lowest staff in tax administration with a mean and standard deviation of ($\bar{x}$=1894, std=23) and ($\bar{x}$=2878, std=594) respectively.

Figure 4.6 Operating Expenditure

Japan has the highest tax administration operating expenditure and remains constant over 2016 and 2017. Canada had the second highest operating expenditure of USD 3,352,200,530 and 3,631,953,420 in 2016 and 2017 respectively. Kenya has the least expenditure at USD 40,268.710 and 45,591.190 in 2016 and 2017 respectively. The average number of staff during the two years was 38,352 in Canada and 2,878 in Kenya.

Diagnostic Tests

Diagnostic testing was conducted to establish the fitness of variables for inferential statistical analysis and to ensure that the assumptions of multiple regression analysis were not violated. The data was subjected to normality, linearity, heteroscedasticity as follows.

Normality Test

Normality test is used to determine whether a data set resembles the normal distribution. Histogram Plot was employed to test for normality. The normal distribution peaks in the middle and is symmetrical about the mean. The Shapiro-Wilk test was also employed to test for normality. This test establishes the extent of normality of the data by detecting existence of skewness or kurtosis or both. For the two tests, the null hypothesis is rejected if the p-value < .05 implying the data is not normally distributed (Shapiro and Wilk,1965; Razali and Wah,2011). The results of Shapiro-Wilk and Kolmogorov-Smirnov tests are given in table 4.5.

Table 4.5 Tests of Normality

The results of Shapiro-Wilk and Kolmogorov-Smirnov tests showed that all the variables were above p-value 0.05 ($p > 0.05$) hence confirming data normality.

Linearity Test

Linearity test was employed to measure the degree level to which a change in the dependent variable was linearly related to a Change in the independent variable. P-P Plot was employed to check for linearity. Refer to Appendix II for the results of P-P plot.

This results of the P-P Plot confirmed the assumption on linearity was not violated for all the data sets of the respective countries.

Heteroscedasticity Test

Heteroscedasticity is as a term used to describe the situation when the variance of the residuals from a model is not constant. Heteroscedasticity is a violation of the multiple regression analysis. Heteroscedasticity was examined by visualizing scatter plots and partial regression plots for individual variables. Refer to Appendix III for the results of the scatter plot.

Inferential Statistics

The study employed inferential statistics on panel data of Tax to GDP Ratio and Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes from the year 2001-2017. Correlation and regression analysis were employed as part of inferential statistics.

Correlation Analysis

The study performed Pearson correlation analyses to assess both the respective strengths and direction of relationships between the independent variables and dependent variables.

Table 4.6: Correlation Analysis

The Results of the Pearson correlation, as shown in Table 4.6 indicate that a fairly strong positive and significant correlation was established between Tax to GDP Ratio and Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes for the following countries namely Kenya (r =0.621, p=0.008), India (r =0.645, p=0.005), Rwanda (r =0.684, p=0.002), Netherlands (r =0.633, p=0.006) and Sweden (r =0.575, p=0.016).

On the other hand, a fairly strong negative correlation was established between Tax to GDP Ratio and Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes for the following countries namely Brazil (r = -0.721, p=0.001) and Canada (r = -0.652, p=0.005).

Regression Analysis

A regression analysis was also conducted to determine the effect tax rates of Corporate tax, Individual income tax, VAT, Capital Gains Tax rates as a % of Total taxes on tax to GDP Ratio (Revenue Performance). The independent variables are Corporate tax, Individual income tax, VAT, Capital Gains Tax rates as a % of total taxes.

Table 4.7 Model Summary

Table 4.7 shows that the independent variables Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes explain much of the changes in dependent variable; Tax to GDP Ratio.

With respect to Kenya, the adjusted R square shows that the independent variables Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes explain 34.5 % of all changes in dependent variable Tax to GDP Ratio. That means that 65.5 % change in Tax to GDP Ratio are explained by other factors which are not accounted by the model. The following table summarises the models of the other countries.

Table 4.8: Summary of Adjusted R Square for select countries

Table 4.9 Analysis of Variance (ANOVA)

From Table 4.9, Based on p-value ($p<0.05$), F-calculated was greater than F-critical for the countries namely Kenya, Brazil, India, Rwanda, Ukraine, Netherlands, Canada and Sweden. This means that the models of the respective countries are statistically significant.

Table 4.10 Coefficients

According to the coefficients of the regression in Table 4.10, Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total tax rates have a significant influence onTax to GDP Ratio (Revenue performance) for the select countries as follows:

Kenya: ($\beta1=0.621$, $p= 0.008$). The results imply that for any unit change in Corporate tax, Income, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases by 0.621 units holding all other factors constant. This finding is in concurrence with PWC (2011) in their report from a survey of 21 OECD countries aver that the average effective corporate tax rate is 23.5% across various jurisdictions globally. This proposition is also consistent with Hungerford (2013) whose findings has led to tax reforms in many in the US and other industrialised countries.

Brazil: ($\beta1= - 0.721$, $p= 0.001$). The results imply that for any unit increase in Corporate tax, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) decreases by 0.721 units holding all other factors constant;

Ghana: ($\beta1= 0.369$, $p= 0.145$). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on $p>0.05$. i.e retained null hypothesis;

India: ($\beta1= 0.645$, $p= 0.005$). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases by 0.645 units holding all other factors constant;

Indonesia: ($\beta1= -0.239$, $p= 0.356$). The results imply that for any unit increase in Corporate, Individual income tax,

VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Mauritius: (β1= 0.230, p= 0.375). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Rwanda: (β1= 0.684, p= 0.002). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases by 0.684 units holding all other factors constant;

South Africa: (β1= -0.119, p= 0.650). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Ukraine: (β1= -0.549, p= 0.023). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) decreases by 0549. units holding all other factors constant;

Japan: (β1= 0.268, p= 0.299). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Netherlands: (β1= 0.633, p= 0.006). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases by 0.633 units holding all other factors constant;

Canada: (β1= -0.652, p= 0.005). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) decreases by 0.652 units holding all other factors constant;

New Zealand: (β1= 0.360, p= 0.155). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Sweden: (β1= 0.575, p= 0.016). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) increases by 0.575 units holding all other factors constant;

Australia: (β1= -0.248, p= 0.336). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis;

Singapore: (β1= 0.286, p= 0.266). The results imply that for any unit increase in Corporate, Individual income tax, VAT and Capital Gains Tax rates, Tax to GDP Ratio (Revenue performance) does not change based on p>0.05. i.e retained null hypothesis.

The regression models are as shown below:

$Yit= \beta 0+ \beta itXit+\varepsilon$

From the regression results, the optimal models for the select countries are as follows:

Kenya: $Yi\ t =16.762 +0.621Xit +\varepsilon$

Brazil: $Yi\ t = 23.156-0.721Xit +\varepsilon$

Ghana: $Yi\ t = 13.24+0.369Xit +\varepsilon$

India: $Yi\ t = 5.205+0.645Xit +\varepsilon$

Indonesia: $Yi\ t = 17.237-0.239Xit +\varepsilon$

Mauritius: $Yi\ t = 13.875+0.230Xit +\varepsilon$

Rwanda: $Yi\ t = 12.007+0.684Xit +\varepsilon$

South Africa: $Yi\ t = 31.6-0.119Xit +\varepsilon$

Ukraine: $Yi\ t = 24.201-0.549Xit +\varepsilon$

Japan: $Yi\ t = 4.028+ 0.268Xit +\varepsilon$

Netherlands: $Yi\ t = 4.028+0.633Xit +\varepsilon$

Canada: $Yi\ t = 33.156-0.652Xit +\varepsilon$

New Zealand: $Yi\ t = 13.228+0.360Xit +\varepsilon$

Sweden: $Yi\ t = 23.379+ 0.575Xit +\varepsilon$

Australia: $Yi\ t = 42.739-0.248Xit +\varepsilon$

Singapore: $Yi\ t = 9.295+0.286Xit +\varepsilon$

Where;

Y= Tax to GDP Ratio (Revenue performance)

β0= Constant which defines Tax to GDP Ratio (Revenue performance) without inclusion of independent variable.

βit = Coefficient of X1

Xit = Corporate, Individual income tax, VAT and Capital Gains Tax rates

ε = Error Term

Hypotheses Testing

H01 Tax structure has no significant effect on revenue performance.

The first null Hypothesis stated H01: Tax structure has no significant effect on revenue performance. The following were the results of the hypothesis testing for select countries based on p-values for the first null hypothesis.

Table 4.11 Hypotheses Test

The tax structure has a statistically significant positive relationship with revenue performance for the countries, Kenya, Brazil, India, Rwanda, Ukraine, Netherlands, Canada and Sweden.

Section II – Analysis of Primary Data

4.2 Descriptive statistics of the primary data

Majority of the responses came from the revenue administration officials and a few from private tax practitioners, consultants and tax payers. 76 percent of the responses are from Kenya. The data therefore largely

describes the Kenyan tax regime. The analysis is presented below:

Table 4.12 Country Frequency Table

Figure 4.7 Descriptive Bar Graph

Findings from table 4.12 and figure 4.7 indicated that Kenya had highest of the responses which carried the most responses while Zimbabwe, USA and Zambia all tied with 4.8% of the responses.

Table 4.13 Job Level Frequency Table

Table 4.13 and Figure 4.8 Showed that there were 46.7% middle management level respondents 33.3% Functional Officers, 16.7% Top management and rest 3.3% Unemployed respondent.

Table 4.14 illustrates the mean standard deviation minimum and maximum and Kurtosis and skewness of the survey conducted. There were 31 responses to the survey questions.

Table 4.14 Descriptive statistics

4.6.1. Tax administration

The findings on tax administration were assessed under the following themes: independence of the revenue administration, integrity, staffing, automation and taxation principles (equity, effectiveness and efficiency).

Most of the responses indicate that the revenue administration is sufficiently independent in the delivery of its mandate of tax assessments, collection and enforcement. The respondents agree that there is a demonstration of support for tax administration reform at the highest political level, that is, the Minister of Finance and the Head of State. 67 percent agreed that there is exchange of information between departments; and also that the revenue authority has sufficient enforcement powers.

Most responses support that the revenue administration is highly politicized (75 percent of respondents). The head of the revenue administration is politically appointed. 53 percent of the respondents agree that there is political interference in individual tax assessment cases occasionally, while 59 percent agree that due to political protection multinationals cannot be taxed properly.

25 percent of the respondents agree that the general public views the revenue authority as having integrity while 31 percent of the respondents disagree.

The respondents strongly agree that the revenue administration staff are adequately skilled, and receive regular training. The staff training improves revenue performance. The respondents agree that the salary and bonus system is better compared to other government agencies and the private sector. The staff turnover is low.

The respondents agree that the revenue administration has adequately invested in ICT infrastructure for operationalization of tax systems. Automation has simplified payment and increased the efficiency and effectiveness of the revenue administration. Audit case selection is risk based but not fully computerized. Audits are conducted regularly.

The responses to the question whether tax burden is equally distributed within the population was split between those who agreed and disagreed with the statement. This indicates that the distribution of tax burden is still a grey area, which needs to be addressed by policy makers to promote equity. 75 percent of the responses indicate that the revenue administrator faces problems in collecting taxes from certain businesses and individuals due to negative attitude of the payers. The taxpayers are not aware of the projects and services provided from the taxes paid.

Tax administration is an important aspect of the tax system. It is well established and has contributed to better revenue performance. It has skilled staff and sufficient enforcement powers. It enjoys support from the high office. The level of automation is high. The administration enjoys sufficient independence in assessment, collection and enforcement of taxes but occasionally there is political inference. The findings differ slightly from those of Odd-Helge and Lise (2003) and Taliercio, (2001), which suggest that the tax administration has limited autonomy. The tax burden is not adequately distributed within the population. The taxpayers do not see the value of the taxes paid hence have a negative attitude towards taxation.

The respondents pointed out the need for computerized audit case selection, and public engagements to educate taxpayers and improve the public perception. Other areas indicated for improvement include employment based on merit rather than political basis, frequent audits, staff motivation and support for career growth and public service delivery.

4.6.2 Tax Rates

68 percent of the respondents agree that Kenya is a high tax regime. 40 percent respondents agree that there is constant change in tax rates. 53 percent concurred that low withholding tax rates encourage tax compliance while high withholding tax rates discourage tax compliance. 54 percent of the respondents agree that high penalties increase tax compliance.

One of the respondents noted that frequent changes in the tax rates bring uncertainty to taxpayers. Further, granting lower tax rates does not necessarily enhance compliance of already non-compliant businesses who perceive taxes as an inconvenience. Deterrent measures like high penalties and methodological adjustments on indirect tax rates with high elasticity such as VAT and excise tax approaches to identify

defaulters would be more effective. The findings are in tandem with Hungerfield (2013). However it is not in concurrence with Mukhtar et al. (2001) whose findings asserted that individual tax payers tend to comply less as the marginal tax rates rise in a tax jurisdiction. The findings further with Ade et.al (2018) who concluded that tax rates and policy harmonization determine tax revenue collected in various tax jurisdictions. Consequently, expansion of tax base to net more taxpayers is important for purposes of enhancing revenue collection to help mitigate budgetary deficits which is envisaged to catalyze prudent fiscal performance.

Tax Dispute Resolution Structure

The respondents were unanimous that there are indeed tax laws in their jurisdictions, and 90% of the respondents confirmed that the tax laws are contained in a harmonized set of procedural rules. The pertinent provisions contained in most jurisdictions,(78% of the jurisdictions) include the following: the tax review process; provisions of timelines, within which objections and appeals must be filed, the consequences of failing to meet these deadlines and the provisions on extension of timelines, and the contents of an objection decision.

Largely, the respondents stated that the tax laws provide for objection to tax decisions on the principal tax heads as follows: income tax (96%), VAT/GST (93%), excise duty (94%), property tax (84%), stamp duty (59%), tax related fines and penalties (68%). However, for withholding tax, there was a paltry 3%.

Between 68% and 78% of the respondents attributed the main reasons for tax disputes to arbitrary application of tax laws, incorrect interpretation of tax laws and issuing tax decisions using incorrect or insufficient information. Reasons such as unrealistic penalties and political interference were least attributed to tax disputes at 3%.

Based on the findings, it is apparent that most jurisdictions already have in place tax legislation that provides for dispute resolution and these laws contain provisions on the resolution process. It is also apparent that the tax legislation covers the pertinent tax heads, including income tax, VAT/GST, property taxes and excise duty. It is interesting to note however that the findings show most jurisdictions do not have provisions on resolution of withholding tax disputes. It is not clear whether the respondents understood the taxes as being already provided under income tax or VAT/GST.

Statistical Tests

Reliability Test

Reliability refers to the extent to which a scale produces consistent results, if the measurements are repeated a number of times. The analysis on reliability is called reliability analysis. Reliability analysis is determined by obtaining the proportion of systematic variation in a scale, which can be done by determining the association between the scores obtained from different administrations of the scale. Thus, if the association in reliability analysis is high, the scale yields consistent results and is therefore reliable.

Cronbach's alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when you have multiple Likert type questions in a survey/questionnaire that form a scale and you wish to determine if the scale is reliable. If you are concerned with inter-rater reliability.

Table 5.1: Reliability statistics

A Cronbach's analysis was conducted on Tax Regimes and Revenue Performance in Developing Countries survey. It was found that the subscale's alpha level was .782, which indicates that the subscale has an adequate level of inter-item reliability.

Test for Normality

The use inferential and or parametric statistical procedures recommends that the assumptions of such tests of normality are tested. This is done to abet the graphical tests to be performed about the normality of the data to check for skewness and kurtosis coefficients.

This test also helps to determine whether the data being analysed is normal distributed or not. If the normality is not achieved, the results may not depict the accurate picture relationship amongst the variables.

In this study, normality was tested using Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. Shapiro-Wilk Test is more appropriate for small sample sizes (<50).

Table 5.2 Normality Test

If significance value P- value is below 0.05, the data significantly deviates from a normal distribution. If the p value >= 0.05 the data does not significantly deviate from a normal distribution.

According to the findings, indicated on Table 1.1: Tax Revenue % of GDPTable 5.2 the significance values for the Shapiro-Wilk tests using Kolmogorov-Smirnov for the Tax Administration indicate p value 0.000 $p<0.05$ for the Tax Rate has P value 0.155 $p>0.05$ and the Legislative and process Review has a p value of 0.200 $P>0.05$,

Using the Shapiro-Wilk the Tax Administration indicate p value 0.00 $p<0.05$, Tax Rates was 0.022 $p< 0.05$ and Legislative and process Review was 0.562 $P>0.05$.

The findings from Table 5.2 We concluded that we fail to reject the null hypothesis for Tax Administration and Tax rate since the data from the variables do not follow a normal distribution while we reject the null hypothesis for the Legislative and Process Review and conclude the tests are of normally distributed population.

Distribution Plots

The Distribution plots were further analysed as illustrated in the q-q plots. The normal distribution would indicate many of the points aligned closer to the straight line. This is illustrated in Figure 5.1, Figure 5.2 and Figure 5.3.

Figure 5.1 Normal Q-Q Plot for Tax Administration

Figure 5.2 Normal Q-Q Plot for Tax Structure

Figure 5.3 Normal Q-Q Plot of Legislative Process and Review

Test for Multi-collinearity

Multi-collinearity is a test that evaluates whether the independent variables are highly correlated. It occurs when two or more predictors in the model are highly correlated leading to unreliable and unstable estimates of regression coefficients hence causing strange results when attempting to study how well individual independent variables constitute to an understanding of the dependent variable.

The consequences of multicollinearity are increased standard error of estimates of the Betas, meaning decreased Tax regime factors other and misleading results. The test for multicollinearity was conducted to assess whether one or more of the variables of interest is highly correlated with one or more of the other independent variables.

Table 5.3 Test for Multi-collinearity

The variance inflation factor (VIF) was used to evaluate the level of correlation between variables and to estimate how much the variance of a coefficient was inflated because of linear dependence with other predictors.

If any of the VIF are greater than 10 (greater than 5 when conservative) then there is a probability of a problem with multicollinearity and is harmful to the study (Newbert, 2008). The results for tests of multicollinearity were as presented in Table 5.3. None of the VIFs is above 10 thus there isn't a high level of correlation between independent variables.

Correlation analysis

The study used Karl Pearson's coefficient of correlation in order to quantify the strength of the relationship between the variables. The Pearson product-moment correlation coefficient determines the strength of a linear association between two variables and is denoted by r which can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value less than 0 indicates a negative association, that is, as the value of one variable increases the value of the other variable decreases.

The Pearson's coefficient was used to verify the existence or non-existence of linear correlation between and among the tax incentives variables with financial performance.

Table 5.4 Correlation Matrix

Findings from the correlation test shown on Table 5.4 indicated that the Tax Structure had a positive correlation of r = 0.394 to Revenue performance measures. The p value was 0.031 $p<0.05$. The test concluded that an improvement of tax structures would lead to increase in revenue performance, and that there was a statistically significant correlation between Tax Structure and Revenue performance.

The findings Indicated further that for Legislative and Process Review there was a negative correlation r = -0.187 to revenue performance and a P value of 0.322 $P>0.05$. The test concluded that an improvement of Legislative and process Review would lead to decrease in revenue performance, and that there was no statistically significant correlation between Legislative and process Review and Revenue performance.

The findings Indicated further that for Tax administration there was a negative correlation r = -0.09 to revenue performance and a P value of 0.638 $P>0.05$. The test concluded that an improvement of Tax administration would lead to decrease in revenue performance, and that there was no statistically significant correlation between Tax administration and Revenue performance.

Regression Analysis

Multiple regression analysis was conducted, to test relationship among variables (independent) on the relationship between tax regime and the revenue performance in Kenya. The study applied the statistical package for social sciences (SPSS V 25.0) to code, enter and compute the measurements of the multiple regressions for the study.

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable revenue performance that is explained by the independent variable Tax regime.

Regression Analysis on the influence of the Tax regime on revenue performance

Multiple linear regression analysis was conducted determining the relationship between the Independent Variables and the Dependent variables.

Table 5.5 Model Summary

The findings in Table 5.5 show the model summary for the regression test, measuring the effect of Tax Structure and Legislative Process and Review, Tax Administration on Revenue performance. The test deduces an r- value = 0.428 and r-square value = 0.183. This shows existence of marginal association between Independent variable and Revenue performance.

The results indicate that predictor variables had a positive correlation with the revenue performance up to 42.8 %. It also reveals that predictor variable caused a small variation of 18.3%, which implies that the remaining 81.7 % was caused by other factors not included in the model.

ANOVA Table

Analysis of variance test was conducted on the effect of Tax regime on Revenue performance, shown on Table 5.6.

Table 5.6 ANOVA Table

Findings from the ANOVA table showed a significance value of 0.147 P>0.05 indicating that there is no statistically between the means of the independent variables.

Multivariate regression

The multivariate regression output in Table 5.7, highlights the beta-coefficients for the tax regime factors versus revenue performance.

Table 5.7 Coefficient Table

The model equation for the study:

Where; Y = Revenue performance, β0 = constant,

β1 = beta coefficient for Tax Rate X1 =Tax Structure,

β2, = beta coefficient for Legislative and process Review X2 = Legislative and process Review

β3= beta coefficient for Tax Administration X3 = Tax Administration,

ϵ = error term

$y=\beta 0 + \beta 1X1+\beta 2X2+\beta 3tX3+\epsilon$

The overall equation model for Revenue Performance, influenced by Tax regime predictor variables was as follows:

y=1.702+0.96-0.807-1.652E-7

From the model, the results revealed that the Revenue Performance was 1.702 when all the predictor variable values are zero. The model indicates that when the value Tax structure changes by one unit the Revenue performance increased by 0.96. The model further illustrated that one unit change in Legislative and process review lead to a reduction of -0.807 unit change on Revenue performance. This implies that legislative processes impact negatively on revenue collection. The findings contradicts Nam &Walpole (2016) who concluded that an effective tax justice, availability of a fair, impartial and independent tax dispute resolution mechanism between tax payers and tax revenue collection body is a critical indicator of a well-developed tax system.

Finally, the research conducted concluded that one unit change in Tax administration variable lead to a unit reduction of -1.652E-7 of revenue performance.

The P values of the tax Structure, legislative and process Review, Tax Administration variables were 0.045 P<0.05, 0.364 P>0.05, 0.853 P>0.05, respectively.

The research conducted concluded that that since P-value 0.045 p<0.05 we reject the null hypothesis and concluded that Tax structure has a statistically significant effect on Revenue performance.

The research further found that since P value of Legislative and process review was 0.364 p >0.05 we fail to reject the null hypothesis that Legislation has no significant effect on revenue performance.

Lastly the model was able to find that the p value for Tax administration was 0.853 p>0.05, we therefore fail to reject the null hypothesis that Tax administration has no significant effect on revenue performance.

Limitations of the study

The study was done within a limited time and budget, hence data collection and the study relied largely on secondary data and primary data from online administration. In addition, a look at successful reforms in other countries' economies offers some answers on how policy makers can address the challenge of low tax collection. For instance, Cambodia, Georgia, Guyana, Liberia, and Ukraine which achieved some of the largest revenue gains after tax reform show that, regardless of the constraints they face, countries can strengthen their capacity to collect tax revenue by pursuing reform strategies with certain distinct features. By analyzing what worked in other countries, the paper can draw lessons for strategies Kenya should consider.

The completion of study was significantly slowed by hitches in terms of collecting primary data from across the globe. This was compounded by the Corona pandemic which has painfully engulfed the entire world with unprecedented far reaching ramification. Responses from survey monkey were few and far between. None the less, this has been meticulously mitigated by engaging techno serve team members and well trained competent research assistants and well-knit contacts.

5. Conclusions, Summary and Recommendations

This chapter presents the summary of findings as discussed in the previous chapter. Conclusions of the study as well as the recommendations of the study are presented in this chapter based on the findings. These were presented systematically as per the specific objectives of the study.

Tax Administration:

The regression results show a significant positive relationship between the tax administration and the revenue performance. From findings, the study recommends that more resource should be channelled towards staff development through rigorous training for capacity building and adequate remuneration of more tax professionals. This is envisaged to create a vibrant and robust team with a view to enhancing tax revenue performance. Also more autonomy in tax administration is recommended to enable tax authorities more latitude to discharge their functions more effectively. Political interference should therefore be reduced to bare minimum.

Systems automation should be thoroughly embedded in the tax structures through a seamless efficient and effective information communication technology (ICT) infrastructure. Empirical studies on developed and fast developing tax jurisdictions such as the US, Canada and Malaysia have shown that sublime leveraging on technology lead to higher tax revenue performance. An independent revenue administration with sufficient resources in terms of staffing and proper

systems, that promotes integrity, equity, effectiveness and efficiency will enhance revenue collection.

Tax Rates:

From the foregoing findings, tax rates should be adjusted accordingly and equitably, to reflect both socio economic and rational budgetary needs. This is likely to increase revenue collection from property tax, taking cognizance of the fact that Kenya charges the lowest rate in sharp contrast with some of the low tax regimes such as Ireland where the rate is 12%. The study also recommends VAT Act to expand the base by lowering the 5 million Kenya Shillings threshold for VAT able supplies and reduce the VAT to say 10% to enhance compliance compared to some of the more tax efficient regimes like USA and Canada.

Tax rates should be adjusted upwards especially particularly with regard to Capital Gains Tax (CGT). This is likely to increase revenue collection from property tax, taking cognizance of the fact that Kenya charges the lowest rate in sharp contrast with some of the low tax regimes such as Ireland where the rate is 12.5%. This is likely to increase revenue collection from property tax, taking cognizance of the fact that Kenya charges the lowest rate in sharp contrast with some of the low tax regimes. The never-ending fiscal and budget policy debates in Kenya call for radical albeit sober tax reforms with respect to corporate income tax, property tax (CGT). And these reforms should be revenue-neutral changes that broaden the base and lower the tax rate of indirect taxes which are usually characterised by high elasticity. The study therefore recommends an adjustment from the current 3% to 10%.

Additionally, the study recommends that individual tax rates for high net worth individuals ought to be adjusted upwards. Conversely tax incentives should be fairly and prudently granted to tax payers in different sectors of the economy with an emphasis on the self-employed, particularly the youth with cutting edge innovation. Furthermore, the study recommends more professional tax payer education through seminars, and other awareness campaigns to sensitize a vast majority of citizenry on the virtues of being tax compliant as obligation.

Tax Dispute Resolution Structure

Litigation of tax disputes leads to delays in revenue collection. It is costly, time-consuming for both the tax authority and the taxpayer and frequently causes a less than harmonious interaction between the tax authority and the taxpayer that undermines voluntary compliance. There is need for jurisdictions to provide certainty in the tax laws. Tax officials are also required to apply tax laws with certainty and provide correct interpretation. Both the taxpayer and tax officials should co-operate to ensure tax disputes are resolved based on correct and n sufficient information.

An efficient administrative tax review process can entail considerable advantages for the taxpayer and the state. It is apparent that a credible, transparent and fast review process can promote tax compliance. Reforming the review process can generate substantial additional revenue for the government. Based on the study findings, efficient dispute resolution mechanism should be embraced through alternative dispute (ADR) to avoid long and tedious litigation process which often unduly delay, and in some cases culminate in colossal loss of tax revenues. ADR mechanism has been instrumental in resolving tax disputes in some of the fastest emerging economies such as Indonesia and Brazil.

Thus a well-structured administrative and legislative framework should be tailor made towards amicable expeditious, efficient and effective optimal collection of tax revenues. It is incumbent upon the Kenyan tax regime to consider the best practices proposed in this paper and draw lessons from the countries discussed in order to enhance its dispute resolution mechanisms.

Consequently, there is need to adopt and implement a holistic approach, cognizant of socio economic, political and behavioural factors; including tax payer attitude and perception, income distribution, efficient ICT infrastructure, effective and efficient administrative and legislative framework underpinned with sufficiently motivated and competent man power to enhance revenue performance. This is envisaged to achieve optimal tax revenue collection, which would ultimately lead to a robust and prudent fiscal management for sustainable economic development, to propel Kenya to the status of the fastest growing economies.

Suggestions for further research

It is suggested that more studies be conducted to include critical factors such as the leveraging of block chain, robotics, Artificial Intelligence (AI) and other emerging technological innovations in taxation to expand the horizon in the realm of taxation for the purpose of tax base expansion, in the global arena.

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Table 1.1: Tax Revenue % of GDP

Country	Tax Revenue as % of GDP
France	39
U.K	34
Germany	29
Brazil	20
U.S	19
Canada	18
Russia	17
Pakistan	15
Indonesia	15
Kenya	18.3
Morocco	13
India	10

Source: OECD (2019)

Table 2.1: Year of establishment of Revenue Agencies in various countries

Country	Year of establishment of Revenue Agencies
Kenya	1995
Ghana	1985
Nigeria	2007
Brazil	1968
India	1953
Rwanda	1998
Mauritius	2004
Zambia	1994
Indonesia	1976
South Africa	1996
Tanzania	1996

Source: Devas, *et al*., 2001

Table 2.2: Tax rates of different countries

Country	Corporation Tax	Capital Gains tax	Witholding Tax		
			Dividends	Interest	Royalties
Afghanistan	20				
Algeria	19 to 26	15	15	10	24
Angola	30	30	10	5 - 15	
Armenia	20	20	10	10	10
Australia	30	12.5			

Country	**Corporation Tax**	**Capital Gains tax**	**Witholding Tax**		
Albania	15	15	8	15	15

(**Source: ey.com tax guide)**

Table 3.1: Measurement of Variables

Variable	**Indicator**	**Measurement**	**Source of Data**
Tax to GDP ratio	Revenue performance	Tax and GDP at constant US$	WDI (World Bank)
Gini Coefficient	The extent to which the distribution of net income among households deviates from a perfectly equal distribution.	As a percentage; zero perfect equality and one represents perfect inequality.	WDI (World Bank)
Corporation Tax rate	Tax rate for resident	Tax rate	KPMG Global
Personal Income Tax rate	Highest tax rate for resident	Tax rate	KPMG Global
Indirect Tax rate	Standard VAT rate	Tax rate	KPMG Global
Corruption Perception Index	Social economic factor	Corruption perception Index	Transparency International
Education expenditure	Education	As a percentage of GDP (at constant 2010 US$)	WDI (World Bank)
GDP per capita	Income	GDP (at constant 2010 US$)	WDI (World Bank)
Dispute resolution	Legislation	Number of cases concluded in court annually	IMF data
Tax administration	Registration of taxpayers and return filing	Registration of taxpayers and return filing	IMF data

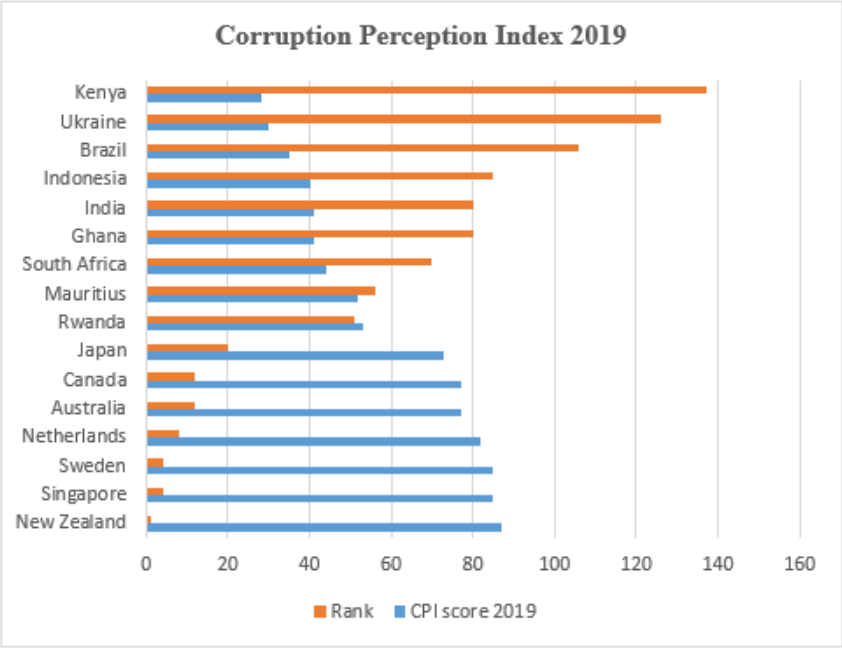


Figure 4.1 Corruption Perception Index

Table 4.1 Descriptive Statistics- CPI

	N	Minimum	Maximum	Mean	Std. Deviation
Country	16	1	16	8.50	4.761
CPI Score	16	28.00	87.00	57.6250	21.32878
Rank	16	1.00	137.00	53.7500	45.62967

Source: Research data.

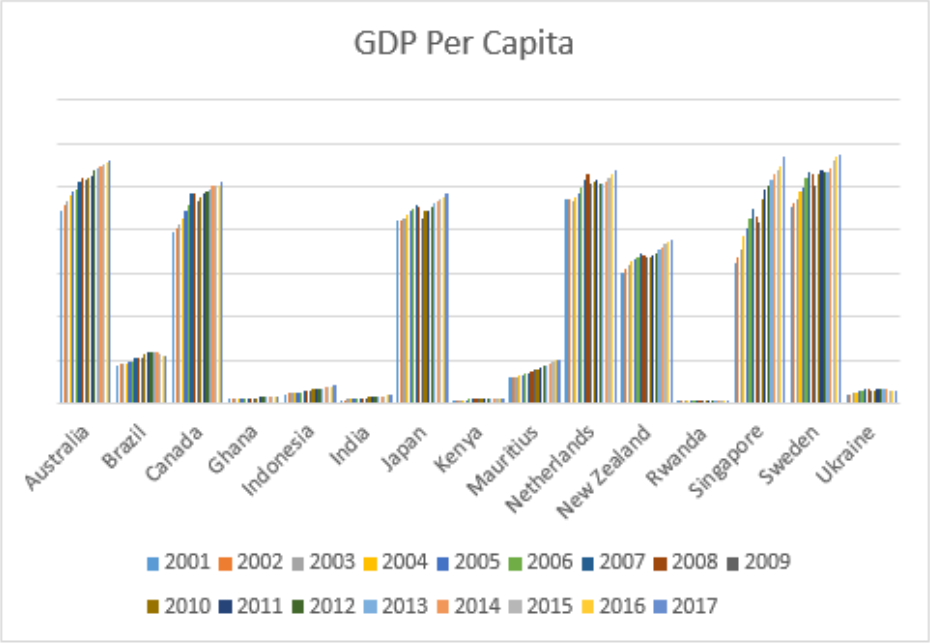


Figure 4.2 GDP per capita

Table 4.2 Descriptive Statistics- GDP per Capita

Country		N	Minimum	Maximum	Mean	Std. Deviation
Kenya	Year	17	2001	2017	2009.00	5.050
	Country	17	1	1	1.00	.000
	GDP per Capita	17	810	1157	949.94	113.300
Brazil	Year	17	2001	2017	2009.00	5.050
	Country	17	2	2	2.00	.000
	GDP per Capita	17	8804	11993	10528.12	1107.082
Ghana	Year	17	2001	2017	2009.00	5.050
	Country	17	3	3	3.00	.000
	GDP per Capita	17	966	1738	1312.24	272.167
India	Year	17	2001	2017	2009.00	5.050
	Country	17	4	4	4.00	.000
	GDP per Capita	17	852	1987	1319.94	352.156
Indonesia	Year	17	2001	2017	2009.00	5.050
	Country	17	5	5	5.00	.000
	GDP per Capita	17	2192	4120	3056.65	627.249

Mauritius	Year	17	2001	2017	2009.00	5.050
	Country	17	6	6	6.00	.000
	GDP per Capita	17	5807	10199	7769.71	1424.901
Rwanda	Year	17	2001	2017	2009.00	5.050
	Country	17	7	7	7.00	.000
	GDP per Capita	17	346	780	558.35	139.479
Ukraine	Year	17	2001	2017	2009.00	5.050
	Country	17	9	9	9.00	.000
	GDP per Capita	17	2005	3322	2856.71	378.283
Japan	Year	17	2001	2017	2009.00	5.050
	Country	17	10	10	10.00	.000
	GDP per Capita	17	42191	48439	44932.71	1851.489
Netherlands	Year	17	2001	2017	2009.00	5.050
	Country	17	11	11	11.00	.000
	GDP per Capita	17	46812	53942	50322.71	2190.989
Canada	Year	17	2001	2017	2009.00	5.050
	Country	17	12	12	12.00	.000
	GDP per Capita	17	39463	51151	46714.59	3713.318
New Zealand	Year	17	2001	2017	2009.00	5.050
	Country	17	13	13	13.00	.000
	GDP per Capita	17	46812	53942	50322.71	2190.989
Sweden	Year	17	2001	2017	2009.00	5.050
	Country	17	14	14	14.00	.000
	GDP per Capita	17	45229	57367	51969.88	3620.329
Australia	Year	17	2001	2017	2009.00	5.050
	Country	17	15	15	15.00	.000
	GDP per Capita	17	44585	56095	51281.71	3562.872
Singapore	Year	17	2001	2017	2009.00	5.050
	Country	17	16	16	16.00	.000
	GDP per Capita	17	32598	56741	45304.29	7575.580

Source: Research data

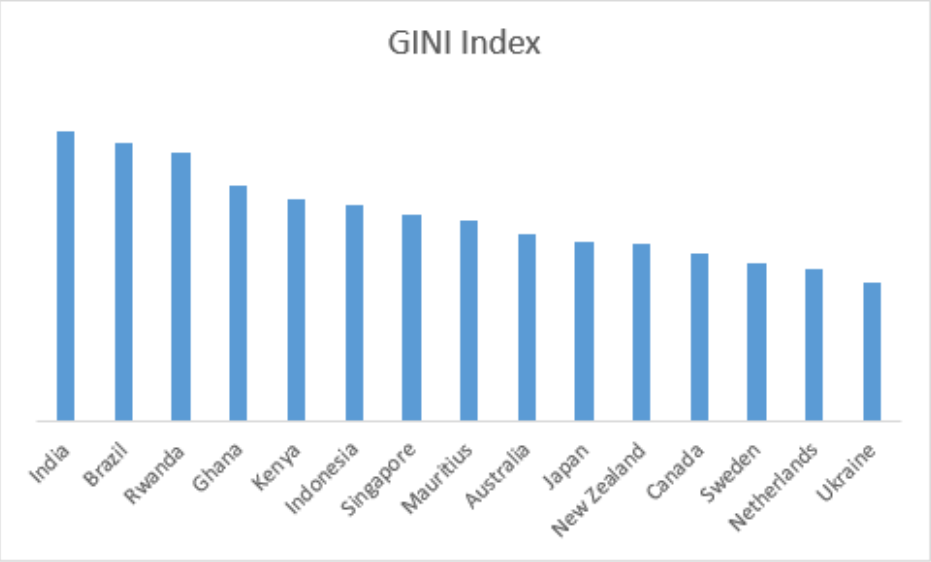


Figure 4.3 GINI Index

Table 4.3 Descriptive Statistics- Dispute Resolution

Country		Minimum	Maximum	Mean	Std. Deviation
Kenya	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	63	88	75.50	17.678
	No. of cases resolved during FY- externally	48	48	48.00	.000
	No. of cases resolved during FY- by higher	101	140	120.50	27.577
Brazil	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	49661	92928	71294.50	30594.389
	No. of cases resolved during FY- externally	10063	13937	12000.00	2739.332
	No. of cases resolved during FY- by higher				
Indonesia	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	100081	363406	231743.50	186198.893
	No. of cases resolved during FY- externally	7248	7820	7534.00	404.465
	No. of cases resolved during FY- by higher	1222	2723	1972.50	1061.367
South	Year	2016	2017	2016.50	.707
Africa	No. of cases resolved during FY- internally	6038	6163	6100.50	88.388
	No. of cases resolved during FY- externally	183	300	241.50	82.731
	No. of cases resolved during FY- by higher	5	28	16.50	16.263
Japan	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	3764	5511	4637.50	1235.316
	No. of cases resolved during FY- externally	245	262	253.50	12.021
	No. of cases resolved during FY- by higher	118	137	127.50	13.435
Netherlands	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	501000	538000	519500.00	26162.951

	No. of cases resolved during FY- externally	5400	5700	5550.00	212.132
	No. of cases resolved during FY- by higher	622	629	625.50	4.950
Canada	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	96098	97853	96975.50	1240.972
	No. of cases resolved during FY- externally	3018	3469	3243.50	318.905
	No. of cases resolved during FY- by higher	96	160	128.00	45.255
New	Year	2016	2017	2016.50	.707
Zealand	No. of cases resolved during FY- internally	204	355	279.50	106.773
	No. of cases resolved during FY- externally				
	No. of cases resolved during FY- by higher	32	36	34.00	2.828
Australia	Year	2016	2017	2016.50	.707
	No. of cases resolved during FY- internally	24490	26690	25590.00	1555.635
	No. of cases resolved during FY- externally	396	488	442.00	65.054
	No. of cases resolved during FY- by higher	31	45	38.00	9.899

Source: Research data

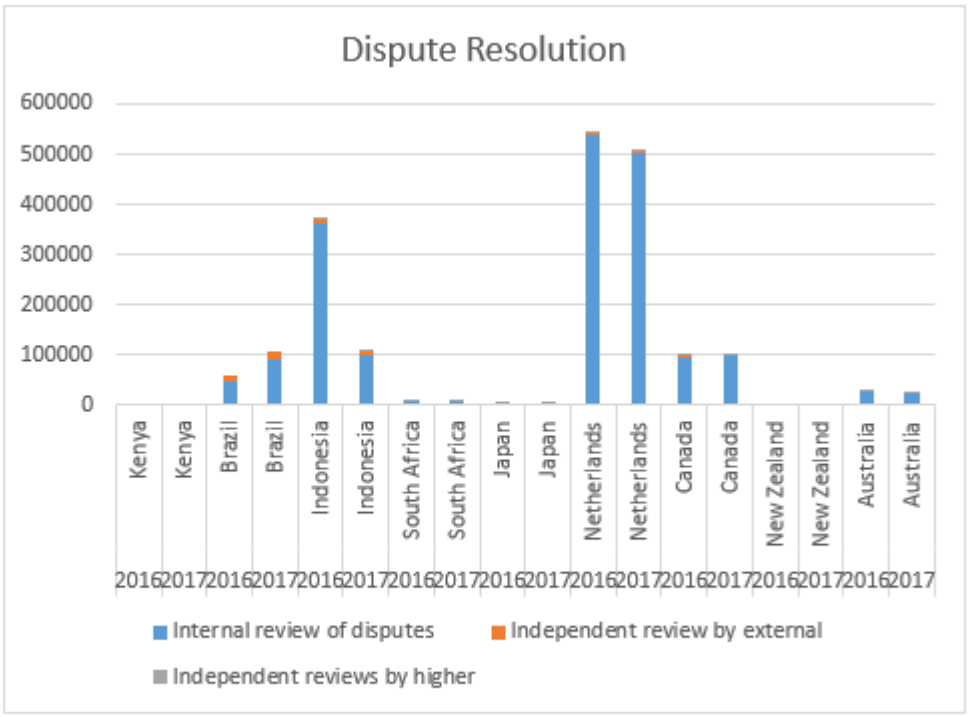


Figure 4.4 Dispute Resolution

Table 4.4 Descriptive Statistics- Tax administration – number of staff

Country		Minimum	Maximum	Mean	Std. Deviation
Kenya	Year	2016	2017	2016.50	.707
	Staff total and by Function	2458	3299	2878.50	594.677
Brazil	Year	2016	2017	2016.50	.707
	Staff total and by Function	17559	18478	18018.50	649.831
	Year	2016	2017	2016.50	.707

South Africa	Staff total and by Function	13585	14210	13897.50	441.942
Netherlands	Year	2016	2017	2016.50	.707
	Staff total and by Function	20082	21480	20781.00	988.535
Canada	Year	2016	2017	2016.50	.707
	Staff total and by Function	37977	38728	38352.50	531.037
New Zealand	Year	2016	2017	2016.50	.707
	Staff total and by Function	5401	5662	5531.50	184.555
Sweden	Year	2016	2017	2016.50	.707
	Staff total and by Function	9396	9476	9436.00	56.569
Australia	Year	2016	2017	2016.50	.707
	Staff total and by Function	17672	17905	17788.50	164.756
Singapore	Year	2016	2017	2016.50	.707
	Staff total and by Function	1878	1911	1894.50	23.335

Source: Research data

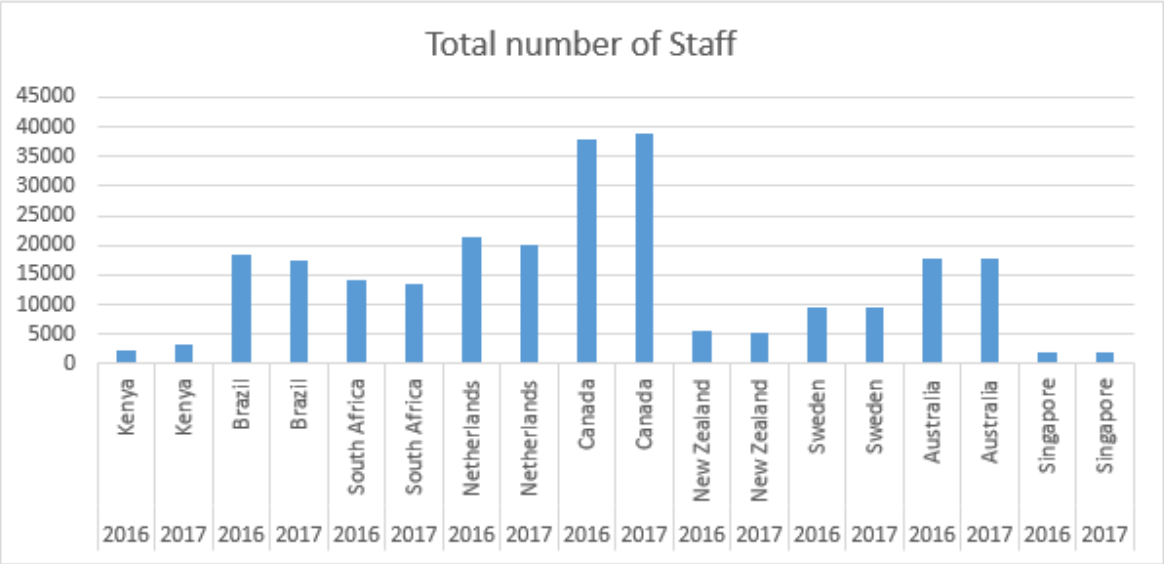


Figure 4.5:Total number of staff

Source: Research data

Table 4.5 Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Country		**Statistic**	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Kenya	Unstandardized Residual	.132	17	.200*	.978	17	.932
	Standardized Residual	.132	17	.200*	.978	17	.932
Brazil	Unstandardized Residual	.156	17	.200*	.962	17	.676
	Standardized Residual	.156	17	.200*	.962	17	.676

Ghana	Unstandardized Residual	.168	17	.200*	.919	17	.143
	Standardized Residual	.168	17	.200*	.919	17	.143
India	Unstandardized Residual	.116	17	.200*	.983	17	.982
	Standardized Residual	.116	17	.200*	.983	17	.982
Indonesia	Unstandardized Residual	.189	17	.109	.913	17	.111
	Standardized Residual	.189	17	.109	.913	17	.111
Mauritius	Unstandardized Residual	.245	17	.008	.641	17	.000
	Standardized Residual	.245	17	.008	.641	17	.000
Rwanda	Unstandardized Residual	.131	17	.200*	.979	17	.951
	Standardized Residual	.131	17	.200*	.979	17	.951
South Africa	Unstandardized Residual	.174	17	.182	.936	17	.278
	Standardized Residual	.174	17	.182	.936	17	.278
Ukraine	Unstandardized Residual	.148	17	.200*	.925	17	.181
	Standardized Residual	.148	17	.200*	.925	17	.181
Japan	Unstandardized Residual	.230	17	.017	.819	17	.004
	Standardized Residual	.230	17	.017	.819	17	.004
Netherlands	Unstandardized Residual	.177	17	.163	.931	17	.227
	Standardized Residual	.177	17	.163	.931	17	.227
Canada	Unstandardized Residual	.089	17	.200*	.975	17	.892
	Standardized Residual	.089	17	.200*	.975	17	.892
New Zealand	Unstandardized Residual	.205	17	.056	.914	17	.118
	Standardized Residual	.205	17	.056	.914	17	.118
Sweden	Unstandardized Residual	.148	17	.200*	.919	17	.140
	Standardized Residual	.148	17	.200*	.919	17	.140
Australia	Unstandardized Residual	.162	17	.200*	.918	17	.136
	Standardized Residual	.162	17	.200*	.918	17	.136
Singapore	Unstandardized Residual	.156	17	.200*	.925	17	.180
	Standardized Residual	.156	17	.200*	.925	17	.180

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Research data

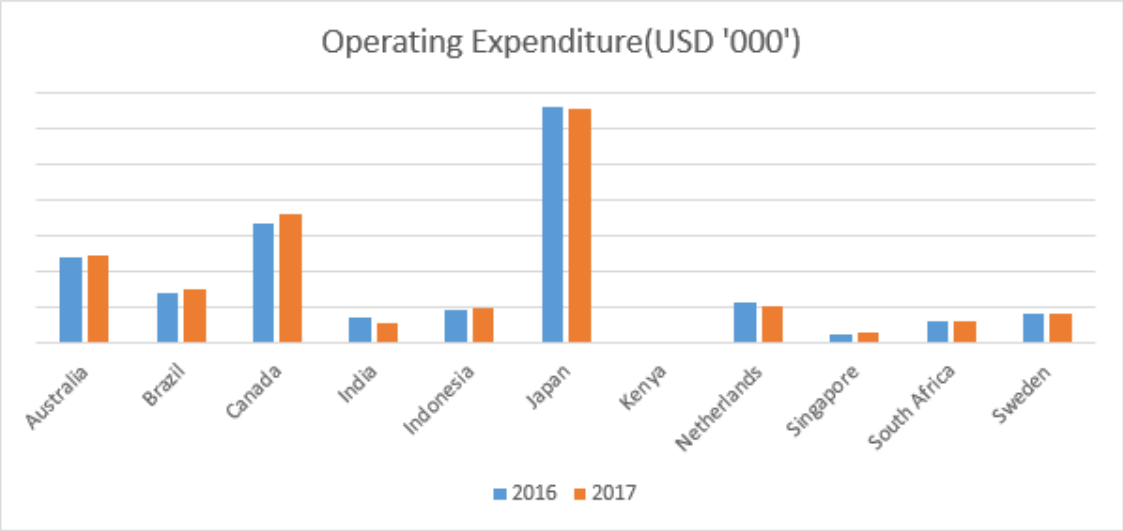


Figure 4.6 Operating Expenditure

Source: Research data

Table 4.6: Correlation Analysis

			Correlations			
Country		**Model**	**Zero-order**	**Partial**	**Part**	**Sig.**
Kenya	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.621	.621	.621	.008
Brazil	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.721	-.721	-.721	.001
Ghana	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.369	.369	.369	.145
India	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.645	.645	.645	.005
Indonesia	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.239	-.239	-.239	.356
Mauritius	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.230	.230	.230	.375
Rwanda	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.684	.684	.684	.002

South Africa	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.119	-.119	-.119	.650
Ukraine	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.549	-.549	-.549	.023
Japan	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.268	.268	.268	.299
Netherlands	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.633	.633	.633	.006
Canada	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.652	-.652	-.652	.005
New Zealand	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.360	.360	.360	.155
Sweden	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.575	.575	.575	.016
Australia	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.248	-.248	-.248	.336
Singapore	1	Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.286	.286	.286	.266

a. Dependent Variable: Tax to GDP Ratio

Source: Research data

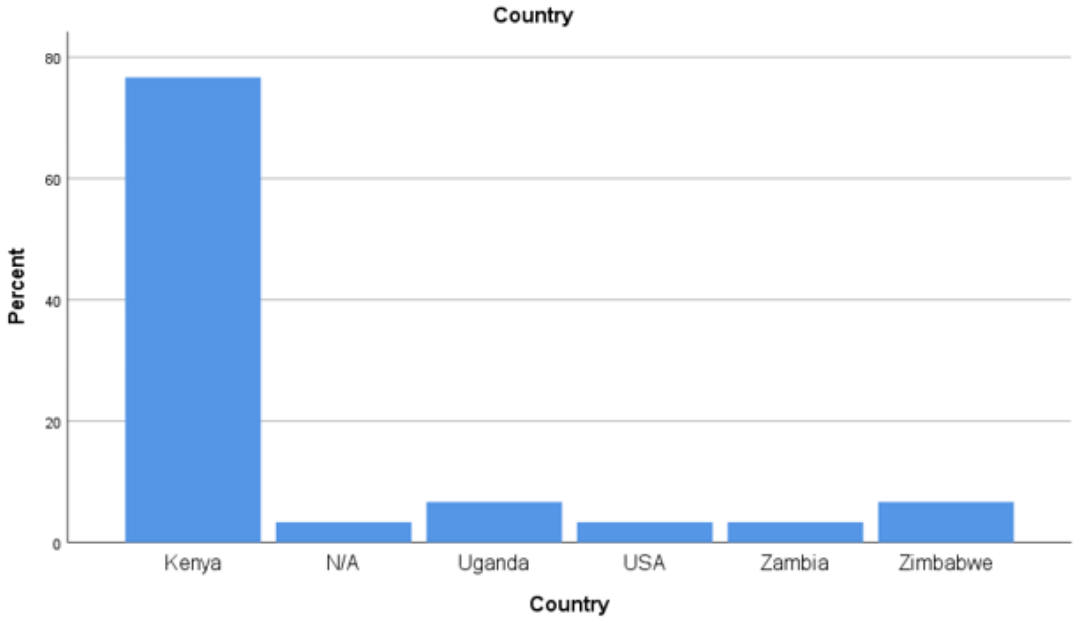


Figure 4.7 Descriptive Bar Graph

Table 4.7 Model Summary

Country	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Kenya	1	.621[a]	.386	.345	.64598083
Brazil	1	.721[a]	.519	.487	.90736994
Ghana	1	.369[a]	.136	.079	3.03098253
India	1	.645[a]	.416	.377	.80343990
Indonesia	1	.239[a]	.057	-.006	1.12466241
Mauritius	1	.230[a]	.053	-.010	2.37015248
Rwanda	1	.684[a]	.468	.433	1.05105655
South Africa	1	.119[a]	.014	-.052	1.49625748
Ukraine	1	.549[a]	.301	.255	2.15775987
Japan	1	.268[a]	.072	.010	1.02006258
Netherlands	1	.633[a]	.401	.361	.69774384
Canada	1	.652[a]	.426	.387	.61483239
New Zealand	1	.360[a]	.130	.072	.84075592
Sweden	1	.575[a]	.331	.286	.75402752
Australia	1	.248[a]	.062	-.001	1.56837800
Singapore	1	.286[a]	.082	.021	.82781248

a. Predictors: (Constant), Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes

b. Dependent Variable: Tax to GDP Ratio

Source: Research data

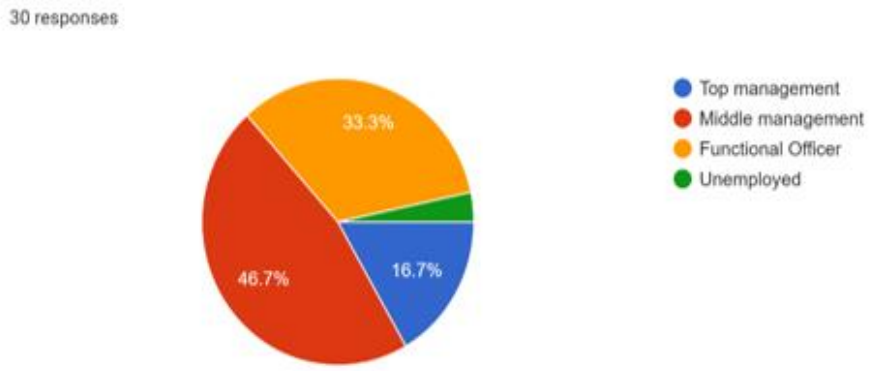


Figure 4.8 Job level

Table 4.8: Summary of Adjusted R Square for select countries

	Country	Adjusted R square explaining % change in Tax to GDP Ratio due to Corporate tax, Individual income tax, VAT, Capital Gains Tax rates	% residual of change in Tax to GDP Ratio explained by other factors
1.	Kenya	34.50%	65.50%
2.	Brazil	48.70%	51.30%
3.	Ghana	7.90%	92.10%
4.	India	37.70%	62.30%
5.	Indonesia	0.60%	99.40%
6.	Mauritius	1.00%	99.00%
7.	Rwanda	43.30%	56.70%
8.	South Africa	5.20%	94.80%
9.	Ukraine	25.50%	74.50%
10.	Japan	1.00%	99.00%
11.	Netherlands	36.10%	63.90%
12.	Canada	38.70%	61.30%
13.	New Zealand	7.20%	92.80%
14.	Sweden	28.60%	71.40%
15.	Australia	0.10%	99.90%
16.	Singapore	2.10%	97.90%

Source: Research data

Table 4.9 Analysis of Variance (ANOVA)

Country		Model	Sum of Squares	df	Mean Square	F	Sig.
Kenya	1	Regression	3.938	1	3.938	9.438	.008[b]
		Residual	6.259	15	.417		
		Total	10.198	16			
Brazil	1	Regression	13.344	1	13.344	16.207	.001[b]
		Residual	12.350	15	.823		
		Total	25.693	16			
Ghana	1	Regression	21.761	1	21.761	2.369	.145[b]
		Residual	137.803	15	9.187		
		Total	159.564	16			
India	1	Regression	6.908	1	6.908	10.702	.005[b]
		Residual	9.683	15	.646		
		Total	16.591	16			
Indonesia	1	Regression	1.148	1	1.148	.908	.356[b]
		Residual	18.973	15	1.265		
		Total	20.121	16			
Mauritius	1	Regression	4.689	1	4.689	.835	.375[b]
		Residual	84.264	15	5.618		
		Total	88.953	16			
Rwanda	1	Regression	14.587	1	14.587	13.204	.002[b]
		Residual	16.571	15	1.105		
		Total	31.158	16			
South Africa	1	Regression	.480	1	.480	.214	.650[b]
		Residual	33.582	15	2.239		
		Total	34.061	16			
Ukraine	1	Regression	30.094	1	30.094	6.464	.023[b]
		Residual	69.839	15	4.656		
		Total	99.933	16			
Japan	1	Regression	1.203	1	1.203	1.156	.299[b]
		Residual	15.608	15	1.041		
		Total	16.811	16			
Netherlands	1	Regression	4.883	1	4.883	10.031	.006[b]
		Residual	7.303	15	.487		
		Total	12.186	16			
Canada	1	Regression	4.201	1	4.201	11.114	.005[b]
		Residual	5.670	15	.378		
		Total	9.872	16			
New Zealand	1	Regression	1.583	1	1.583	2.239	.155[b]
		Residual	10.603	15	.707		
		Total	12.186	16			
Sweden	1	Regression	4.220	1	4.220	7.423	.016[b]
		Residual	8.528	15	.569		

		Total	12.749	16			
Australia	1	Regression	2.427	1	2.427	.987	.336[b]
		Residual	36.897	15	2.460		
		Total	39.325	16			
Singapore	1	Regression	.915	1	.915	1.335	.266[b]
		Residual	10.279	15	.685		
		Total	11.194	16			

a. Dependent Variable: Tax to GDP Ratio

b. Predictors: (Constant), Corporate tax, Individual income tax, VAT, Capital Gains Tax as a % of Total taxes

Source: Research data

Table 4.10 Coefficients

			Unstandardized Coefficients		**Standardized Coefficients**		
Country		**Model**	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
Kenya	1	(Constant)	16.762	.318		52.731	.000
		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.025	.008	.621	3.072	.008
Brazil	1	(Constant)	23.156	2.185		10.597	.000
		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.202	.050	-.721	-4.026	.001
Ghana	1	(Constant)	13.240	1.336		9.907	.000
		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.078	.051	.369	1.539	.145
India	1	(Constant)	5.205	1.564		3.329	.005
		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.103	.032	.645	3.271	.005
Indonesia	1	(Constant)	17.237	5.846		2.948	.010
		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.115	.121	-.239	-.953	.356
Mauritius	1	(Constant)	13.875	3.091		4.489	.000

		Corporate tax,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.130	.142	.230	.914	.375
Rwanda	1	(Constant)	12.007	.397		30.268	.000
		Corporate,Individual income tax,VAT, Capital Gains **Tax as a % of Total** taxes	.048	.013	.684	3.634	.002
South Africa	1	(Constant)	31.600	12.814		2.466	.026
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.105	.227	-.119	-.463	.650
Ukraine	1	(Constant)	24.201	2.967		8.156	.000
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.283	.111	-.549	-2.542	.023
Japan	1	(Constant)	4.028	5.515		.730	.476
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.108	.101	.268	1.075	.299
Netherlands	1	(Constant)	5.940	4.749		1.251	.230
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.325	.103	.633	3.167	.006
Canada	1	(Constant)	33.156	6.148		5.393	.000
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	-.268	.080	-.652	-3.334	.005
New Zealand	1	(Constant)	13.228	5.179		2.554	.022
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.122	.082	.360	1.496	.155
Sweden	1	(Constant)	23.379	1.359		17.202	.000
		Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.208	.076	.575	2.724	.016
Australia	1	(Constant)	42.739	20.001		2.137	.049
		Corporate,Individual income tax,VAT, Capital GainsTax as a % of Total taxes	-.279	.280	-.248	-.993	.336
Singapore	1	(Constant)	9.295	3.225		2.882	.011

Corporate,Individual income tax,VAT, Capital Gains Tax as a % of Total taxes	.080	.069	.286	1.156	.266

a. Dependent Variable: Tax to GDP Ratio

Source: Research data

Table 4.11 Hypotheses Test

Country	**P-value**	**Conclusion**
Kenya	0.008	Reject Ho_1
Brazil	0.001	Reject Ho_1
Ghana	0.145	Retain Ho_1
India	0.005	Reject Ho_1
Indonesia	0.356	Retain Ho_1
Mauritius	0.375	Retain Ho_1
Rwanda	0.002	Reject Ho_1
South Africa	0.650	Retain Ho_1
Ukraine	0.023	Reject Ho_1
Japan	0.299	Retain Ho_1
Netherlands	0.006	Reject Ho_1
Canada	0.005	Reject Ho_1
New Zealand	0.155	Retain Ho_1
Sweden	0.016	Reject Ho_1
Australia	0.336	Retain Ho_1
Singapore	0.266	Retain Ho_1

Source: Research data

Table 4.12 Country Frequency Table

Country					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	**Kenya**	23	76.7	76.7	76.7
	N/A	1	3.3	3.3	80.0
	Uganda	2	6.7	6.7	86.7
	USA	1	3.3	3.3	90.0
	Zambia	1	3.3	3.3	93.3
	Zimbabwe	2	6.7	6.7	100.0
	Total	30	100.0	100.0	

Table 4.13 Job Level Frequency Table

Level					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	**Functional Officer**	10	33.3	33.3	33.3
	Middle management	14	46.7	46.7	80.0
	Top management	5	16.7	16.7	96.7
	Unemployed	1	3.3	3.3	100.0
	Total	30	100.0	100.0	

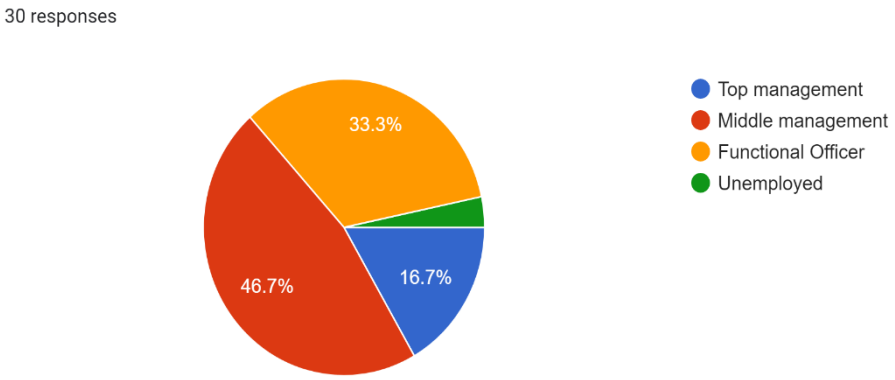


Figure 4.8 Job level

Table 4.14 Descriptive statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	1 Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TaxProfessionWellEstablishedAndEffectivelyRegulated	30	1	5	2.50	1.137	.377	.427	-.778	.833
Adequate_ICT_infrastructure	30	1	5	2.30	1.236	.906	.427	-.224	.833
TaxSystems Adequately_automated_Led to efficient_effective_Revenue_collection	30	1	5	2.47	1.167	.645	.427	-.284	.833
Simplified_TaxPaymentProcess	30	1	5	2.50	1.503	.490	.427	-1.318	.833
Offices_have _adequate _equipment_&_Facilities	30	1	5	2.43	1.073	.275	.427	-.375	.833
Tax _burden _is_fairly_distributed_among_the_population	30	1	5	3.20	1.270	-.186	.427	-1.041	.833
General_business_community_views_tax_administration_as_having_integrity	30	1	5	3.13	1.106	.211	.427	-.839	.833
Tax_administration_is_Independent	30	1	5	2.80	1.243	.175	.427	-1.302	.833
Tax_administration_is_sufficiently_independent_in_making_the_organization_structure	30	1	5	3.03	1.098	-.070	.427	-.913	.833
Tax_administration_is_sufficiently_independent_in_making_its_budget_and_procurement	30	1	5	2.70	1.088	.307	.427	-.940	.833
Tax_administration _is_sufficiently_independent_in_determining_salaries_and_incentives_for _its_staff	30	1	5	2.87	1.008	.500	.427	-.451	.833
There_is_exchange_of_information_between_departments_within_the_tax_administration	30	1	5	2.67	1.295	.064	.427	-1.165	.833

The_tax_administrator_has_adequate_enforcement_powers	30	1	5	2.27	1.112	.879	.427	-.020	.833
Tax_enforcement_is_efficient_to_recover_tax debt	30	1	5	2.40	1.037	.882	.427	.132	.833
The_general_business_community_regards_tax_administration_as_efficient_and_effective	30	1	5	2.87	.973	.523	.427	-.121	.833
noDepartments	25	0	40	6.64	7.593	3.692	.464	16.692	.902
NoRegsteredTaxpayers	23	0	40000000	5776521.74	9526360.370	2.533	.481	7.123	.935
NoEmployees	24	0	9000	3753.92	3008.014	.205	.472	-1.366	.918
requiredSkills	30	1	4	2.37	1.033	.585	.427	-.812	.833
RegularlyTrained	30	1	5	2.63	1.217	.527	.427	-.525	.833
TrainingimprovesPerformance	30	1	5	2.40	1.163	.683	.427	-.107	.833
IndependentinEmployingStaff	30	1	5	2.73	1.172	.286	.427	-.865	.833
Salary&Bonussystem is better compared toother governmentagencies	30	1	5	2.97	1.189	-.064	.427	-.694	.833
The salary and bonus system is better compared to the private sector	30	1	5	3.00	1.083	.175	.427	-.436	.833
The rate of staff turnover is low	30	1	5	2.77	.971	.505	.427	.458	.833
Head of the Tax administration is a political appointee	30	1	5	2.77	1.716	.213	.427	-1.740	.833
All senior management positions are political positions	30	1	5	3.03	1.377	.021	.427	-1.419	.833
External interference in individual Tax assessment cases happens on a regular basis	30	1	5	3.23	1.223	-.116	.427	-1.059	.833
Political interference in individual Tax assessment cases happens occasionally	30	1	5	3.03	1.402	.017	.427	-1.266	.833
Due to political protection multinationals cannot be Taxed properly	30	1	5	2.90	1.447	.186	.427	-1.329	.833

Revenue dept.face problems collecting Taxes from businesses&individuals due to negative attitude	30	1	5	2.73	1.507	.294	.427	-1.489	.833
Taxpayers voluntarily comply to pay correct taxes because they are cognizant of projects and services provided from the taxes paid	30	0	5	2.90	1.423	-.197	.427	-.963	.833
Tax admin functions have been fully computerized	30	1	5	2.47	1.196	.408	.427	-.990	.833
Taxpayer file their returns electronically	30	1	5	2.27	1.660	.853	.427	-1.082	.833
Case selection or audit is risk based	30	1	5	2.37	1.273	.428	.427	-1.177	.833
Risk analysis for audit case selection is fully computerized	30	1	4	2.57	1.073	-.095	.427	-1.196	.833
Tax audits are conducted frequently	30	1	5	2.50	1.480	.479	.427	-1.233	.833
Country is a high tax regime	30	1	5	2.57	1.278	.372	.427	-1.063	.833
Tax rates have remained constant in the last 10 years	30	1	5	3.17	1.117	-.032	.427	-1.162	.833
Increase in direct tax rates has resulted higher revenue collection from individual tax payers	30	1	5	2.87	1.106	.444	.427	-.476	.833
Increase in direct tax rates has resulted higher revenue collection from corporate tax payers	30	1	5	2.77	.971	.747	.427	.153	.833
Low penalties imposed on tax offences has generally resulted in noncompliance by many tax payers	30	1	5	3.10	1.062	.159	.427	-.769	.833
High penalties imposed on tax offences has generally enhanced the level of compliance by many tax payers	30	1	5	2.97	1.098	.572	.427	-.492	.833
The Government usually incentivize tax payers by granting lower tax rates	30	1	5	2.73	1.202	.555	.427	-.777	.833
Granting lower corporation tax rates as an incentive in some sectors of the economy has enhanced revenue collection	30	1	5	2.97	1.129	-.085	.427	-.823	.833

Granting lower corporation tax rates as an incentive in some sectors of the economy has enhanced revenue collection	30	1	5	3.00	1.114	.000	.427	-1.025	.833
The country is a low tax regime & thus attract many investors	30	1	5	3.47	1.137	-.289	.427	-.819	.833
Higher rates of penalties & interest enhance compliance by taxpayers	30	1	5	2.80	1.186	.680	.427	-.578	.833
High corporate tax rate has resulted in low tax compliance in the country	30	1	5	2.80	1.126	-.043	.427	-.393	.833
Lower VAT/Sales tax rates results in higher revenue collection	30	1	5	2.90	.885	.205	.427	-.072	.833
Low Property tax rate has generally resulted in lower tax collection	30	1	5	2.97	1.098	-.098	.427	-.586	.833
Decrease in tax rates generally improved compliance and in more revenue collection	30	1	5	2.63	1.129	.183	.427	-.906	.833
Lower tax rates have enhanced compliance and hence higher tax collection	30	1	5	2.77	.898	.804	.427	1.103	.833
Withholding Tax rates in the country are generally high and thus discourage tax compliance	30	1	5	2.97	1.245	.182	.427	-1.044	.833
Low Withholding tax rates have enhanced revenue collection	30	1	5	2.87	1.008	.283	.427	-1.076	.833
Moderate indirect tax rates for direct taxes have resulted in higher revenue performance	30	2	5	2.93	.785	.579	.427	.188	.833
Higher tax rates for high income earners have affected revenue performance in the country	30	1	5	2.97	1.033	-.131	.427	.021	.833
The government imposes fair Tax rates and this has resulted in optimal revenue performance	30	1	5	2.90	1.062	.766	.427	.031	.833
The number of registered taxpayers has increased in past decade	30	1	5	2.30	1.664	.785	.427	-1.180	.833
The level of tax compliance has increased	30	1	5	2.37	1.326	.784	.427	-.525	.833
Corporation tax payments have increased significantly in the past decade	30	1	5	2.30	1.264	.815	.427	-.436	.833

Individual income tax remittances have increased significantly	30	1	5	2.50	1.456	.538	.427	-1.141	.833
VAT payments have increased significantly in the past decade	30	1	5	2.40	1.248	.756	.427	-.158	.833
Property tax remittances have increased significantly	30	1	5	2.83	1.440	.163	.427	-1.329	.833
Withholding tax payments have increased significantly	30	1	5	2.50	1.456	.682	.427	-.914	.833
The number of taxpayers who have filed their returns on time has increased in the past decade	30	1	5	2.63	1.450	.479	.427	-1.137	.833
The tax base of taxpayers has expanded significantly in the past decade	30	1	5	2.70	1.393	.334	.427	-1.202	.833
Most tax payers are generally happy because the taxes paid eventually benefit them	30	1	5	2.97	1.326	.160	.427	-1.140	.833
Valid N (leastwise)	21								

Table 5.1: Reliability statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.782	65

Table 5.2 Normality Test

Tests of Normality						
	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	df	Sig.	Statistic	df	Sig.
TaxAdministration	.320	30	.000	.577	30	.000
Tax Structure	.137	30	.155	.917	30	.022
LegislativeProcessandReview	.099	30	.200*	.971	30	.562
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

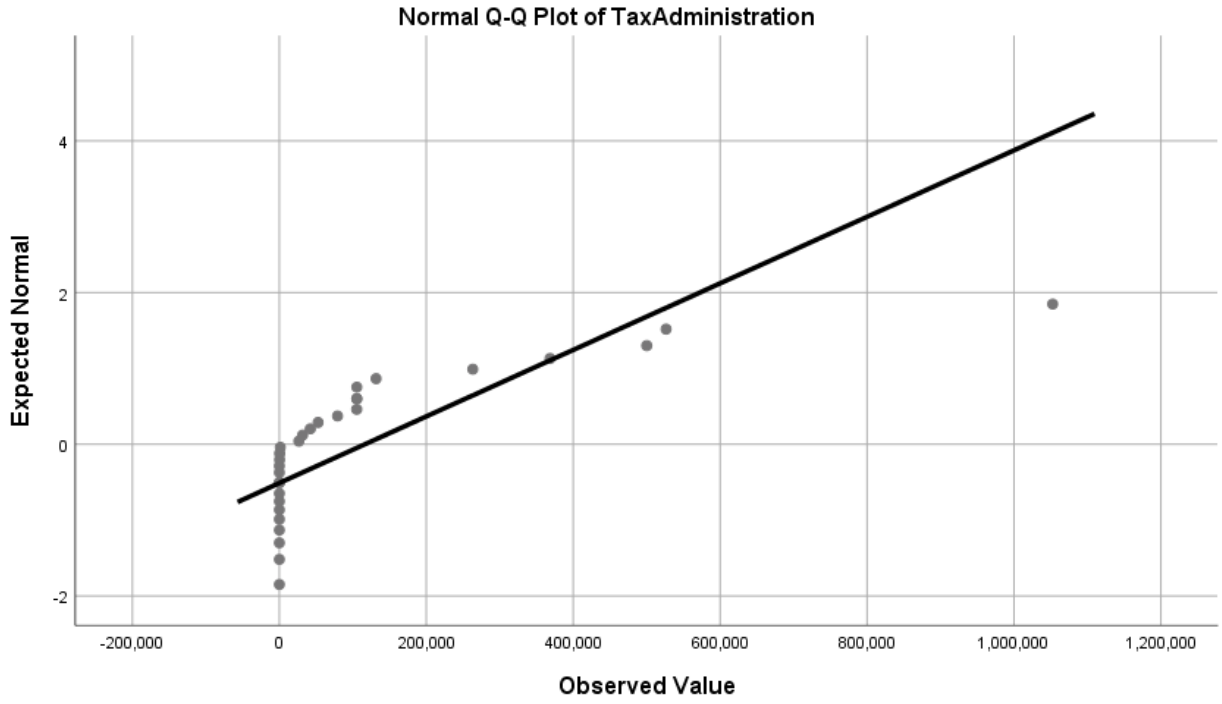


Figure 5.1 Normal Q-Q Plot for Tax Administration

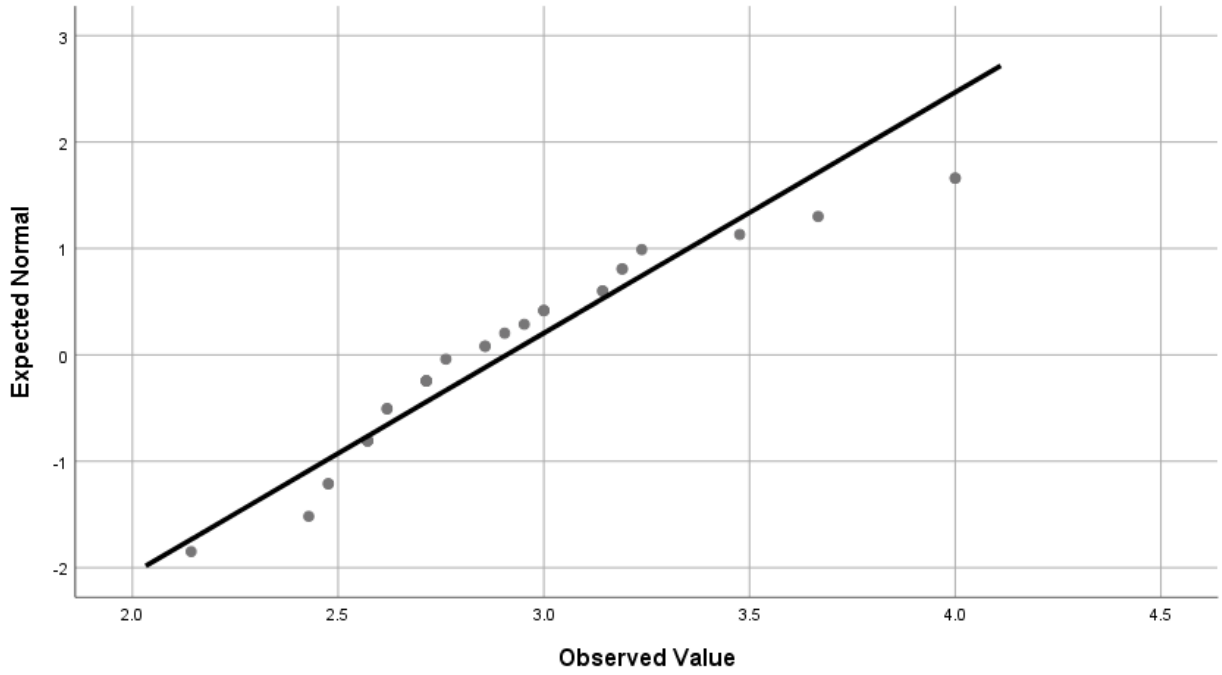


Figure 5.2 Normal Q-Q Plot for Tax Structure

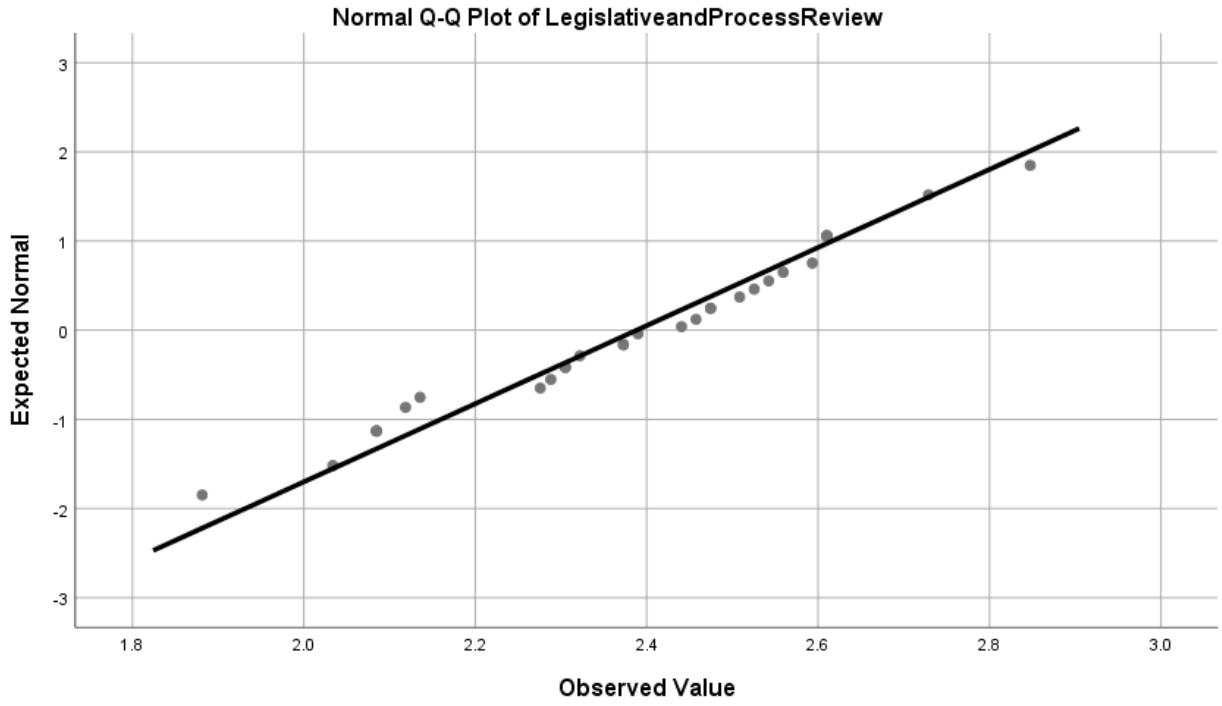


Figure 5.3 Normal Q-Q Plot of Legislative Process and Review

Table 5.3 Test for Multi-collinearity

Coefficients[a]			
Model		**Collinearity Statistics**	
		Tolerance	**VIF**
1	**Tax Systems Adequately_automated_Led to efficient_effective_Revenue_collection**	.143	7.007
	Simplified_TaxPaymentProcess	.225	4.442
	Tax_administration _is_sufficiently_independent_in_determining_salaries_and_incentives_for _its_staff	.346	2.888
	Tax_enforcement_is_efficient_to_recover_tax debt	.131	7.652
	requiredSkills	.193	5.187
	The rate of staff turnover is low	.212	4.709
	Due to political protection multinationals cannot be Taxed properly	.335	2.986
	Taxpayer file their returns electronically	.178	5.609
	Tax rates have remained constant in the last 10 years	.320	3.126
	High penalties imposed on tax offences has generally enhanced the level of compliance by many tax payers	.248	4.027
	The Government usually incentivize tax payers by granting lower tax rates	.531	1.884

	High corporate tax rate has resulted in low tax compliance in the country	.232	4.306
	Lower VAT/Sales tax rates results in higher revenue collection	.164	6.088
	Low Property tax rate has generally resulted in lower tax collection	.163	6.138
	Higher tax rates for high income earners have affected revenue performance in the country	.180	5.567
	The number of registered taxpayers has increased in past decade	.289	3.459
	The level of tax compliance has increased	.471	2.124
	The tax base of taxpayers has expanded significantly in the past decade	.238	4.208
	Mosttax payers are generally happy because the taxes paid eventually benefit them	.231	4.326

Table 5.4 Correlation Matrix

		TaxStructure	**LegislativeandProcessReview**	**TaxAdministration**
RevenuePerformance	Pearson Correlation	.394*	-.187	-.090
	Sig. (2-tailed)	.031	.322	.637
	N	30	30	30

Table 5.5 Model Summary

Model Summary									
					Change Statistics				
Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**R Square Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.428[a]	.183	.089	1.07021	.183	1.943	3	26	.147
a. Predictors: (Constant), Tax Structure, LegislativeProcessandReview, TaxAdministration,									

Table 5.6 ANOVA Table

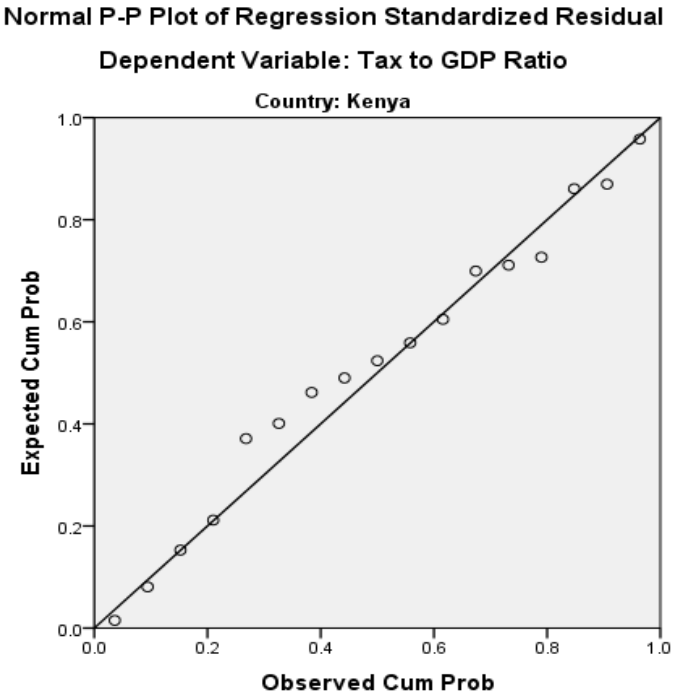
ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	**Regression**	6.676	3	2.225	1.943	.147[b]

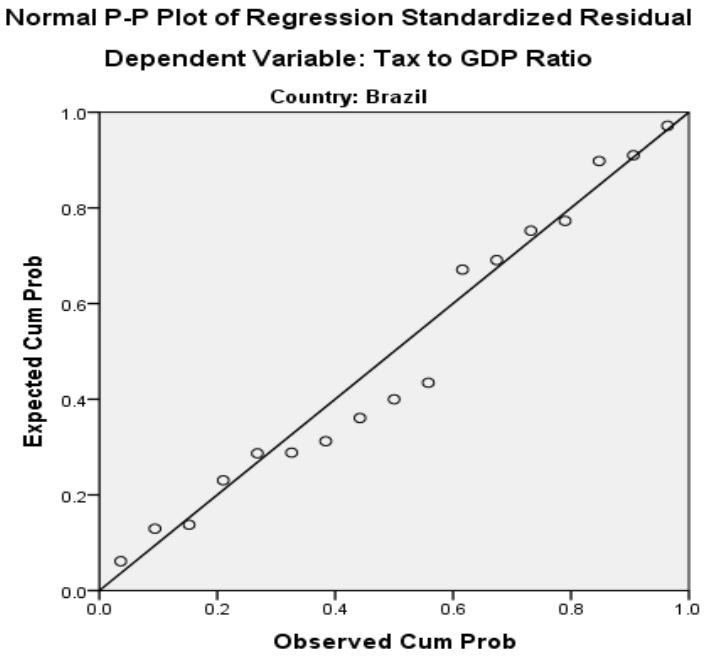
	Residual	29.779	26	1.145		
	Total	36.455	29			
a. Dependent Variable: RevenuePerformance						
b. Predictors: (Constant), Tax Structure, LegislativeProcessandReview, TaxAdministration						

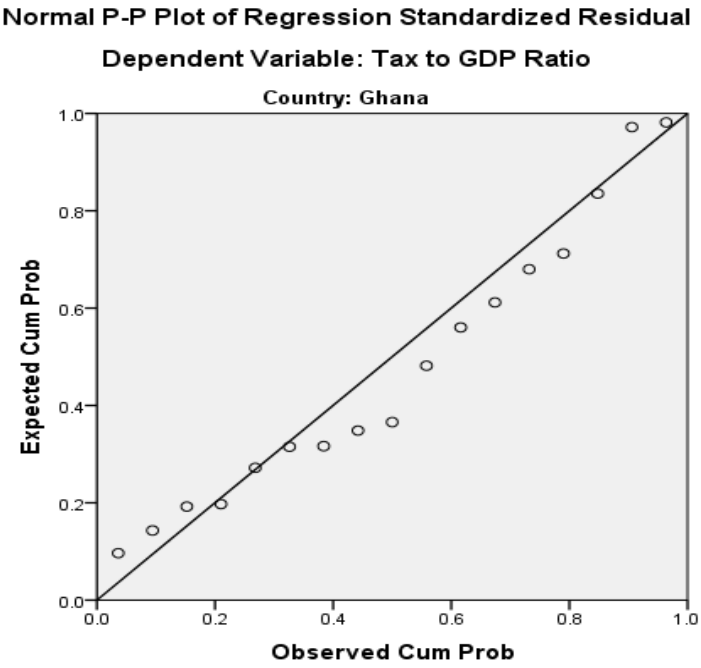
Table 5.7 Coefficient Table

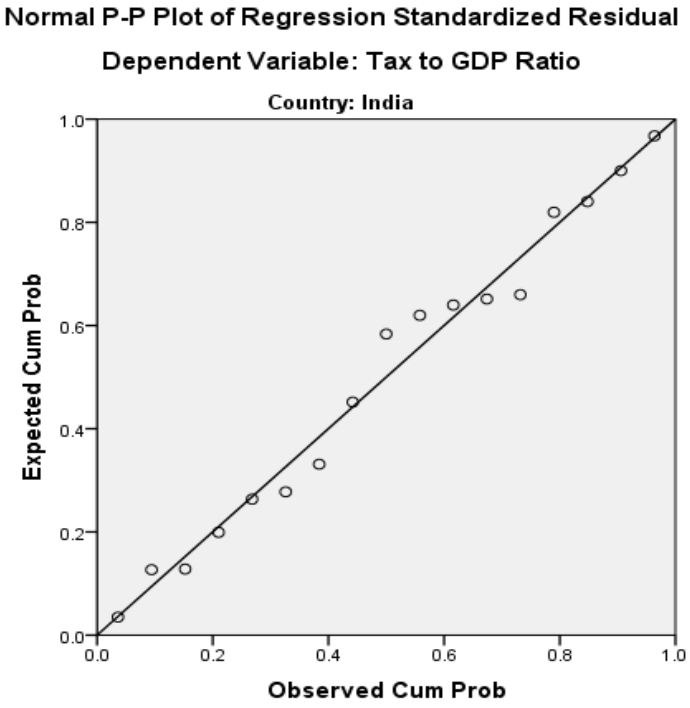
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**Sig.**
		B	**Std. Error**	**Beta**	
1	**(Constant)**	1.702	2.571		.514
	Tax Structure	.960	.457	.379	.045
	LegislativeProcessandReview	-.807	.873	-.164	.364
	TaxAdministration	-1.652E-7	.000	-.034	.853

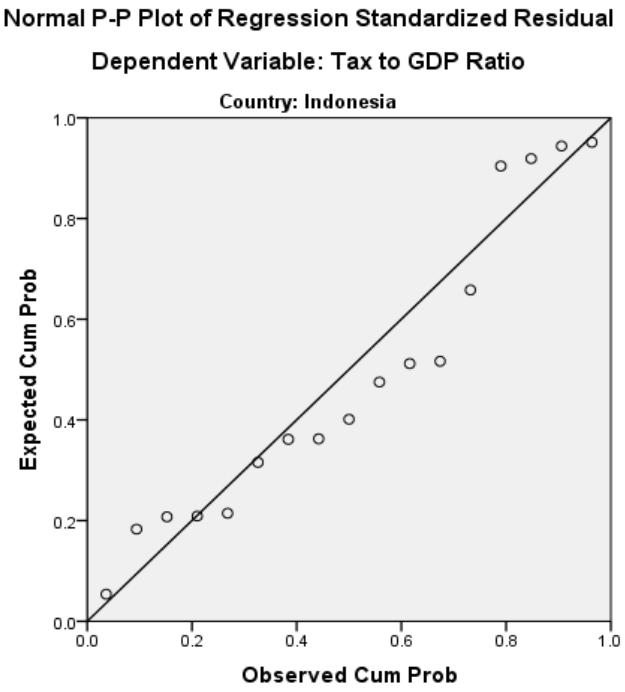
1.1 Linearity Test

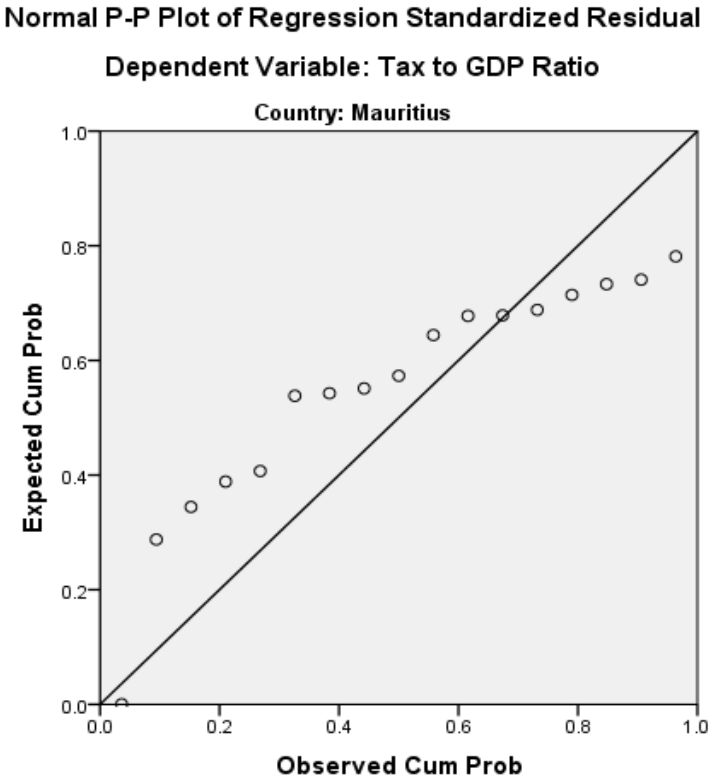


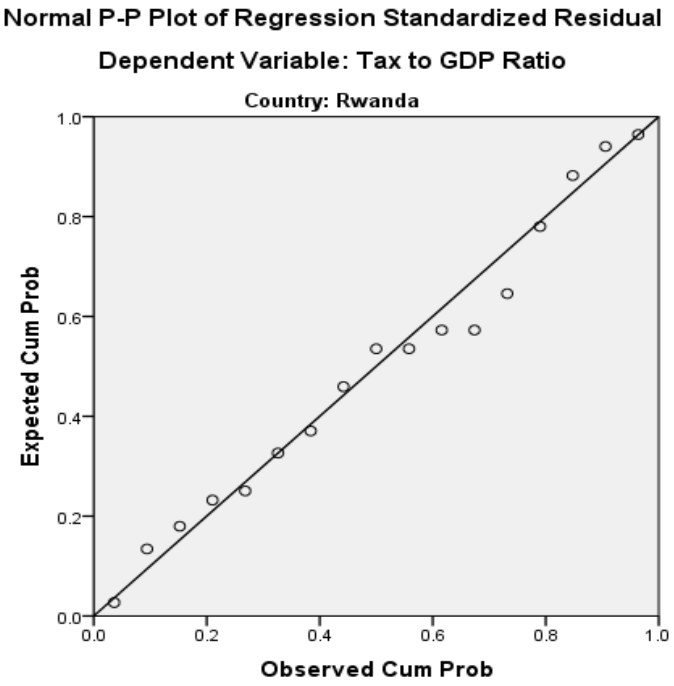


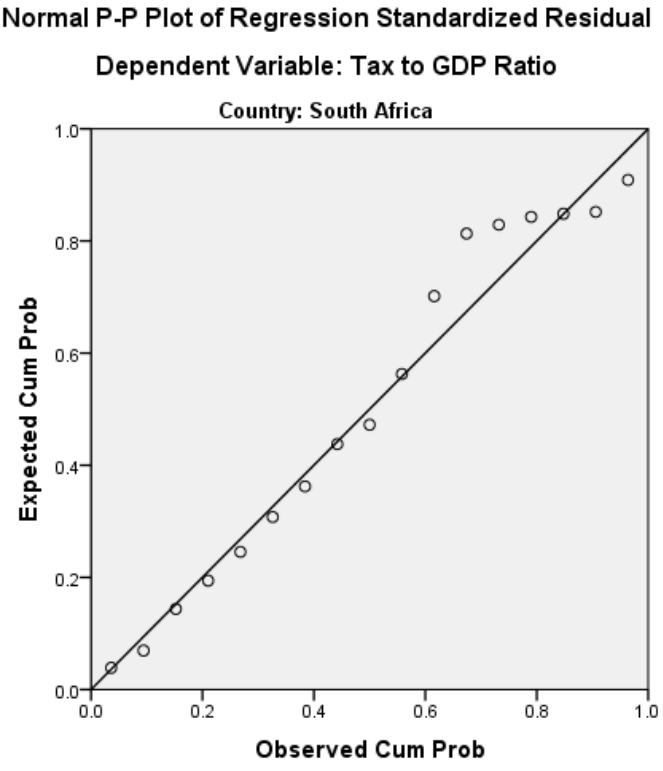

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Ghana
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

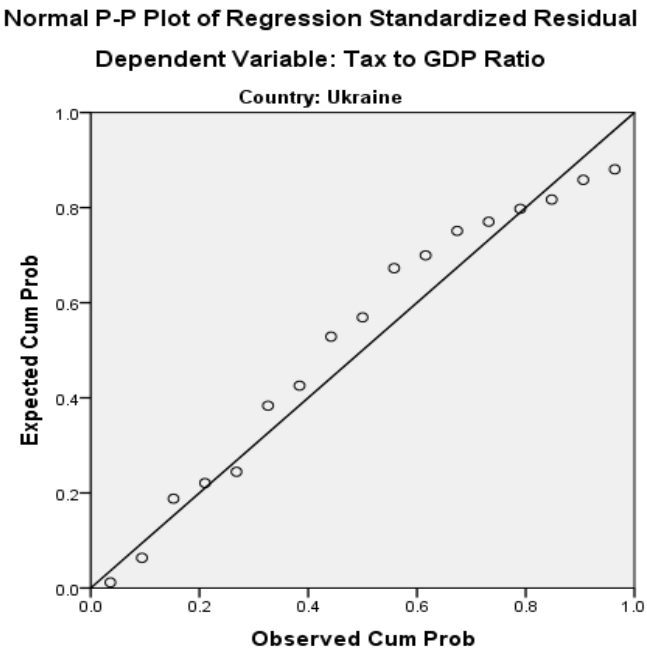

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: India
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Indonesia
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Mauritius
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Rwanda
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: South Africa
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Ukraine
Expected Cum Prob
Observed Cum Prob
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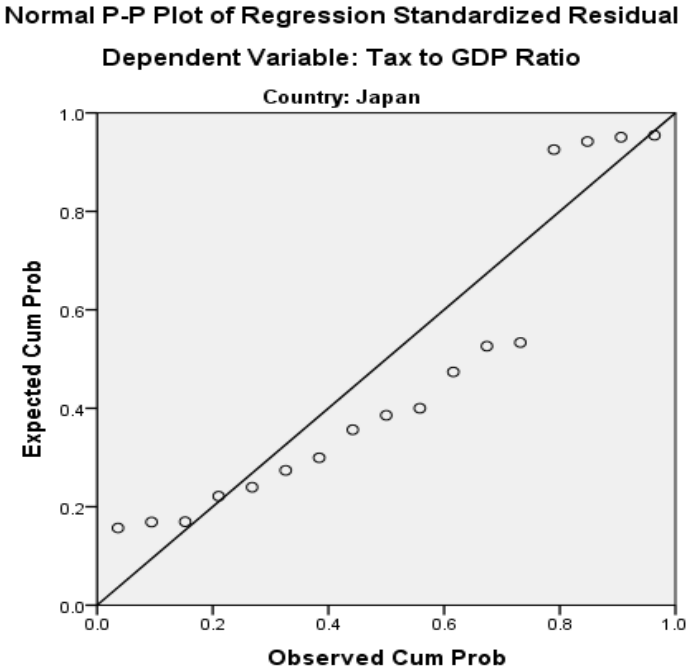
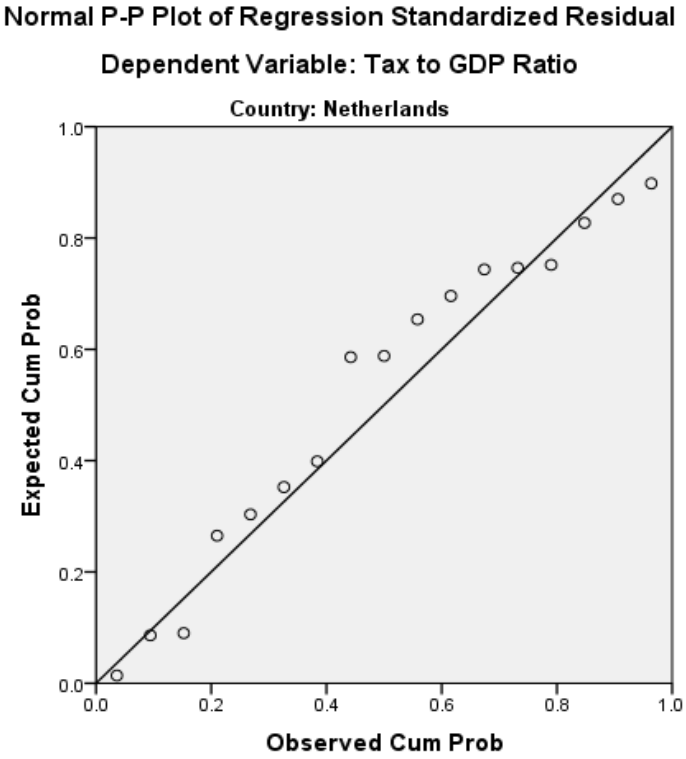
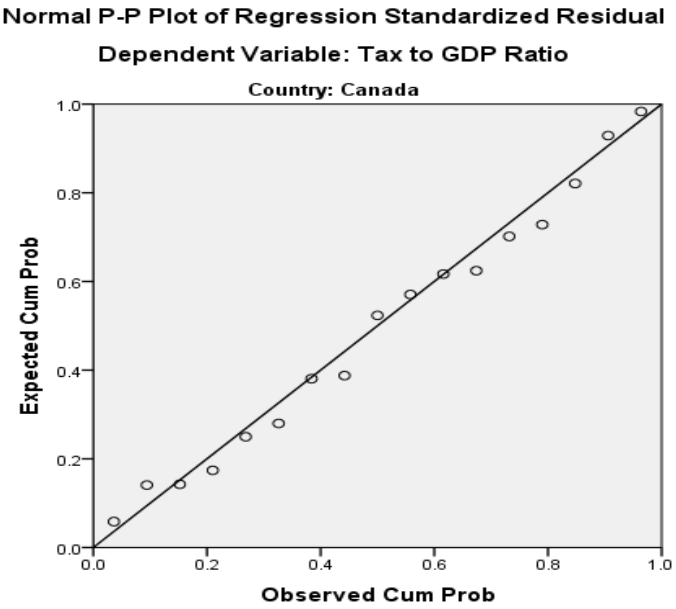
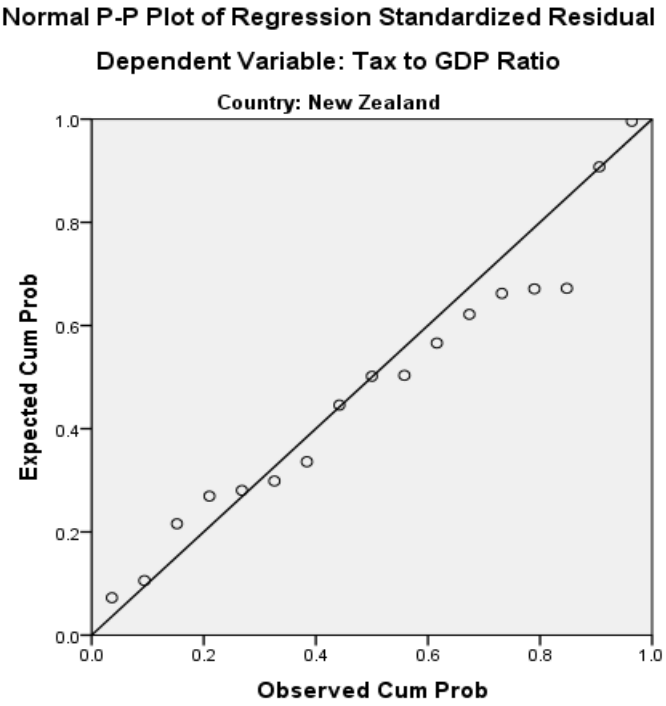
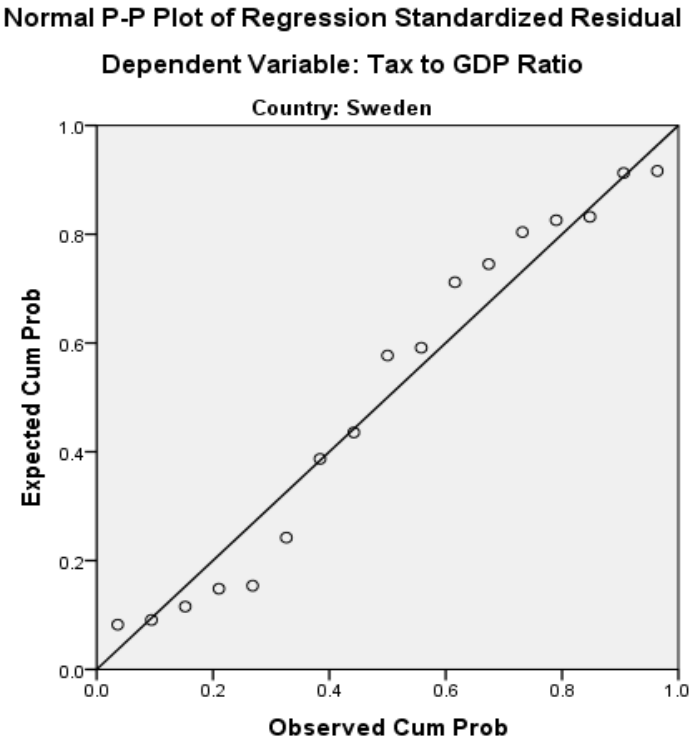
0.2
0.4
0.6
0.8
1.0

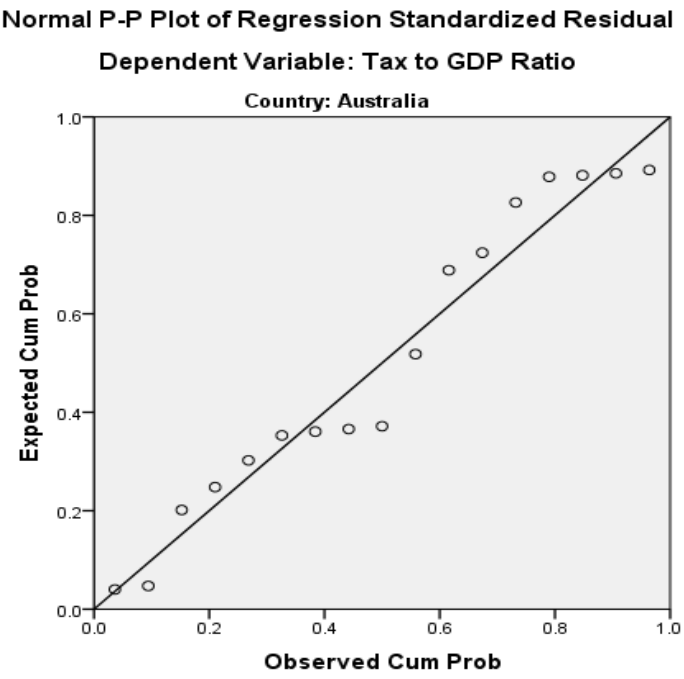

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Japan
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

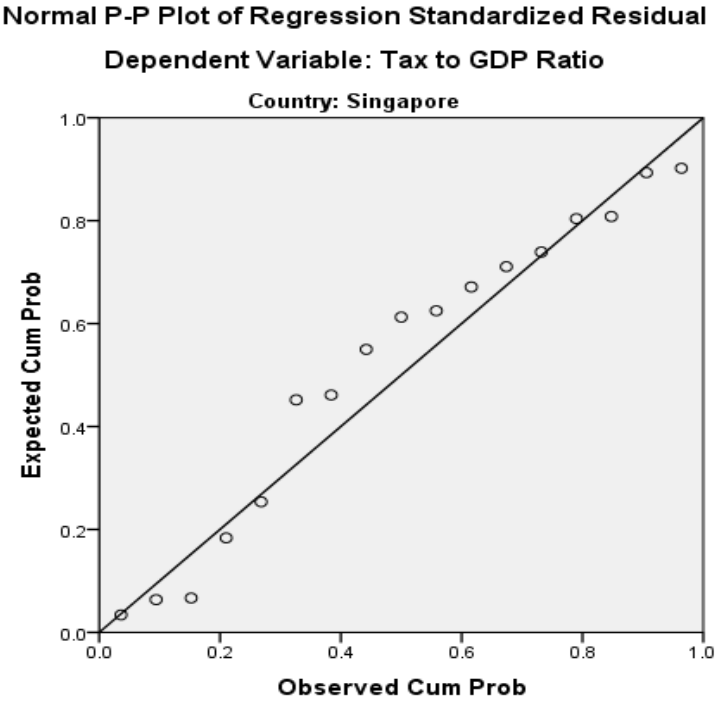

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Netherlands
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Canada
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

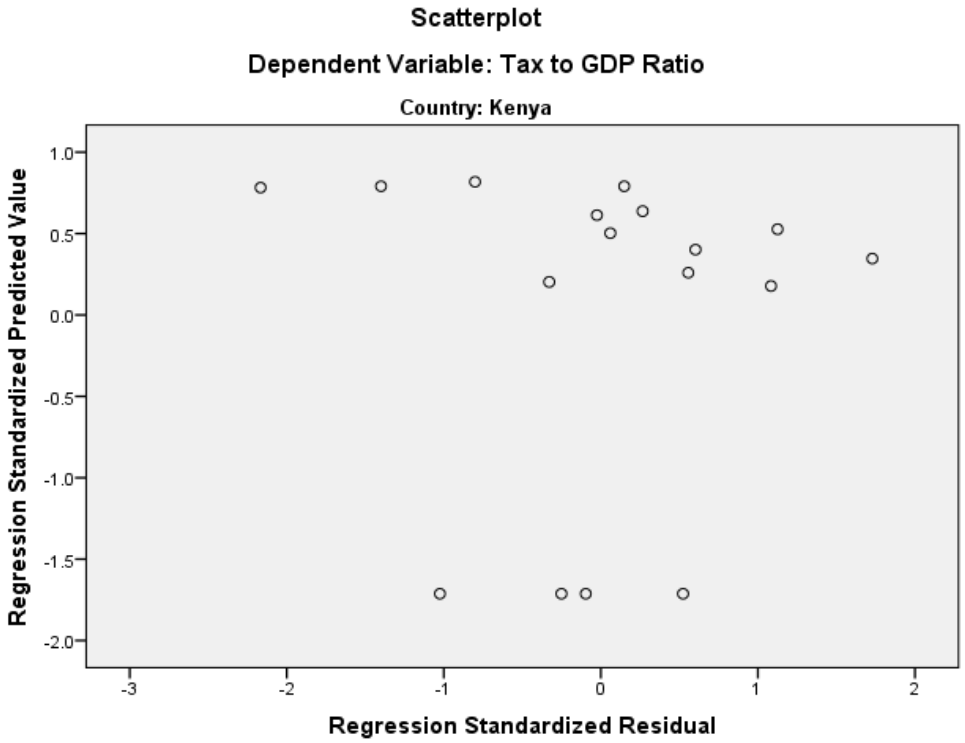

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: New Zealand
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

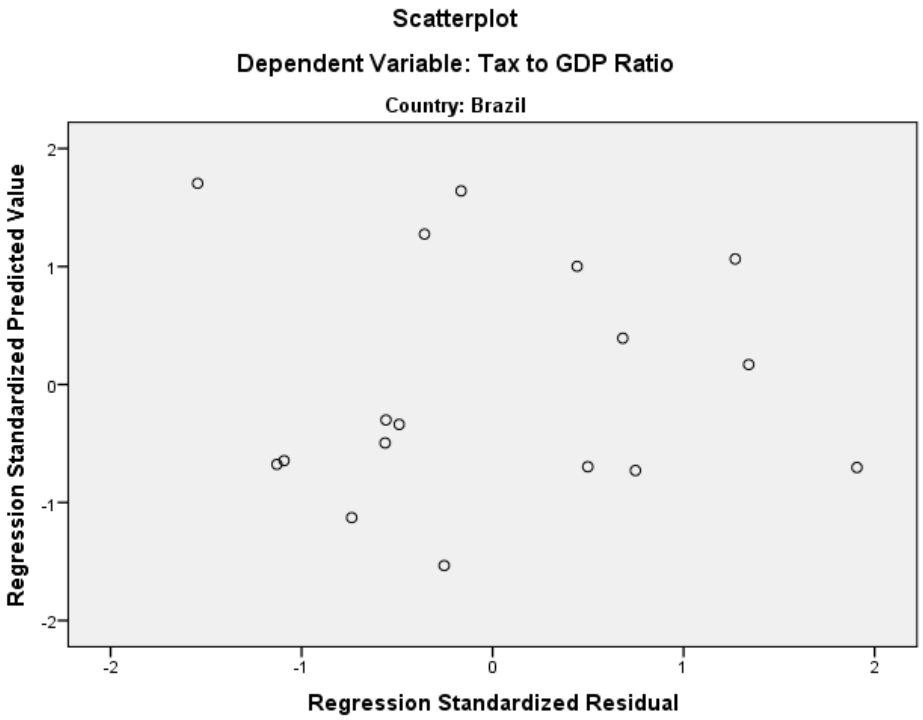

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Sweden
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

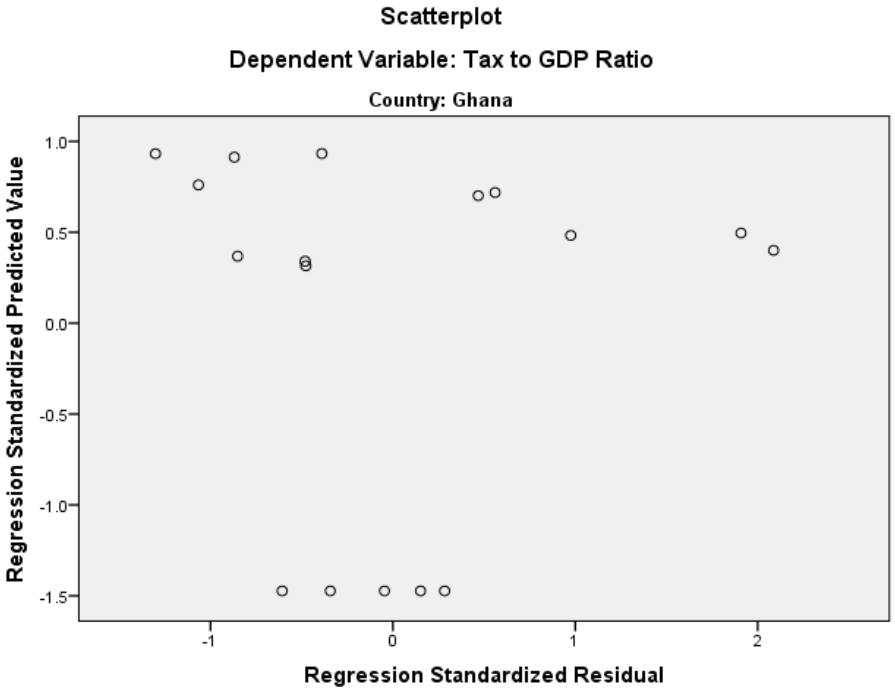

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Australia
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

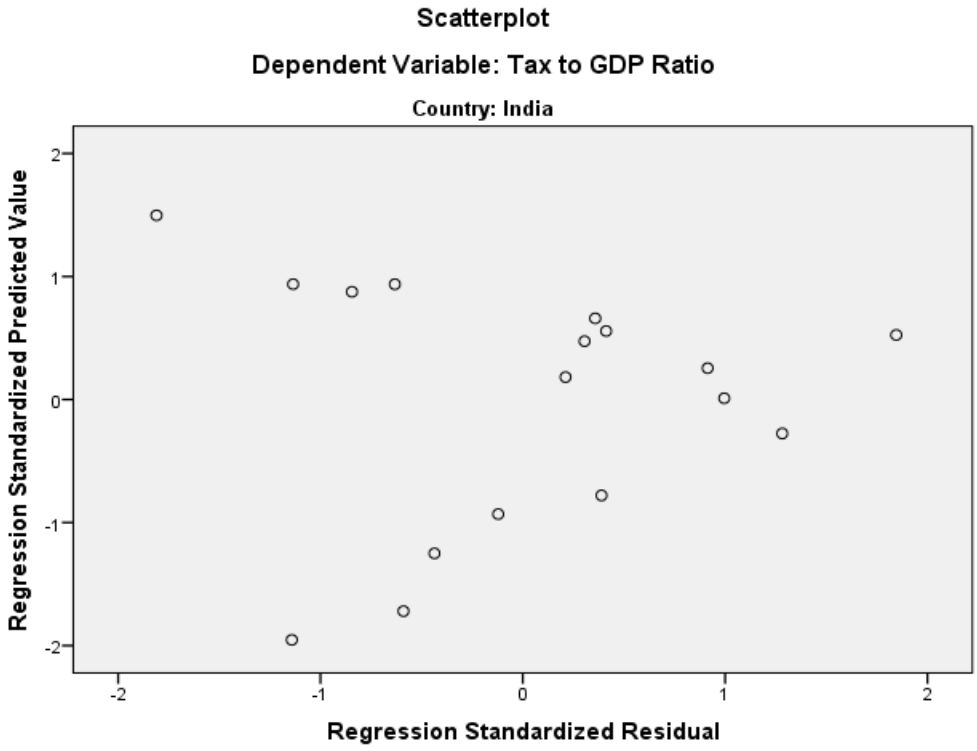

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Tax to GDP Ratio
Country: Singapore
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

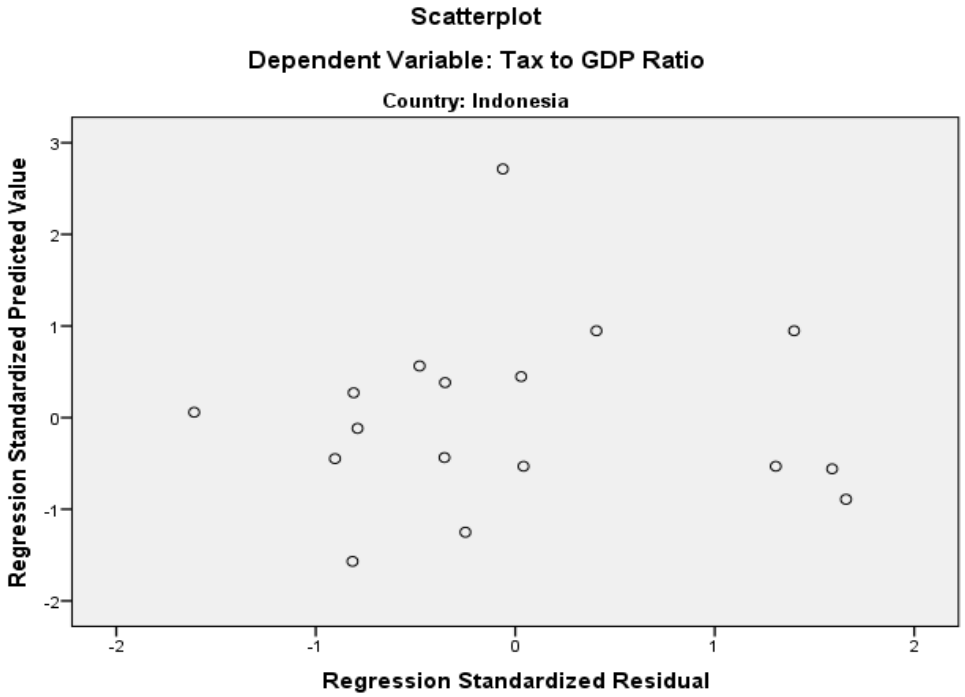
1.2 Appendix II: Heteroscedasticity Tests

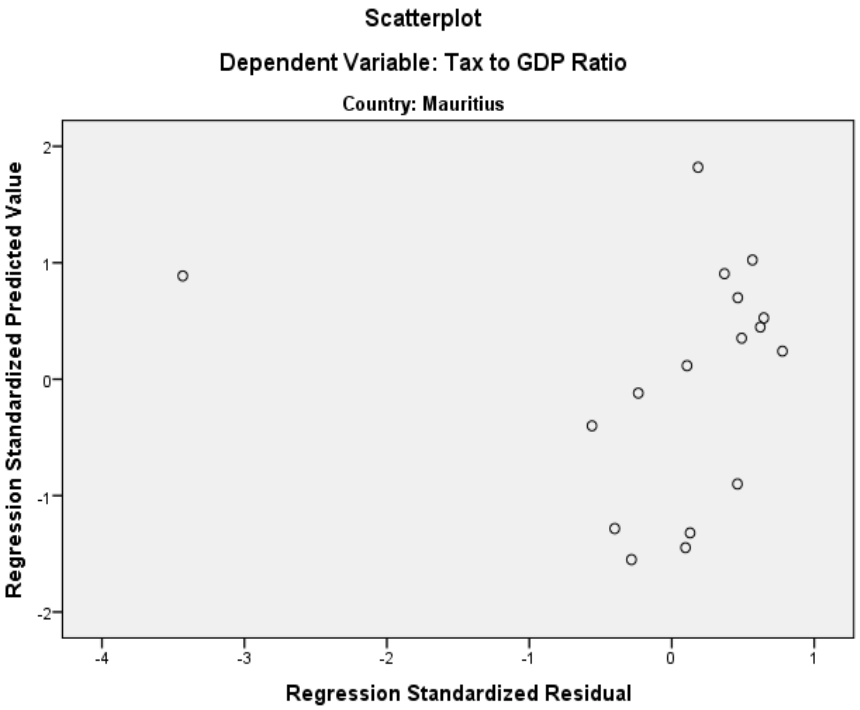


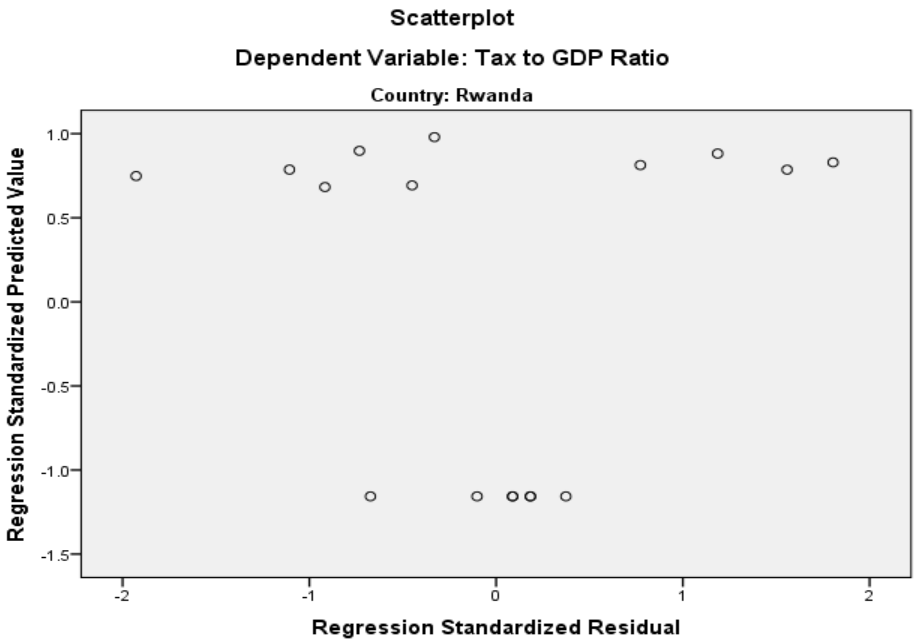


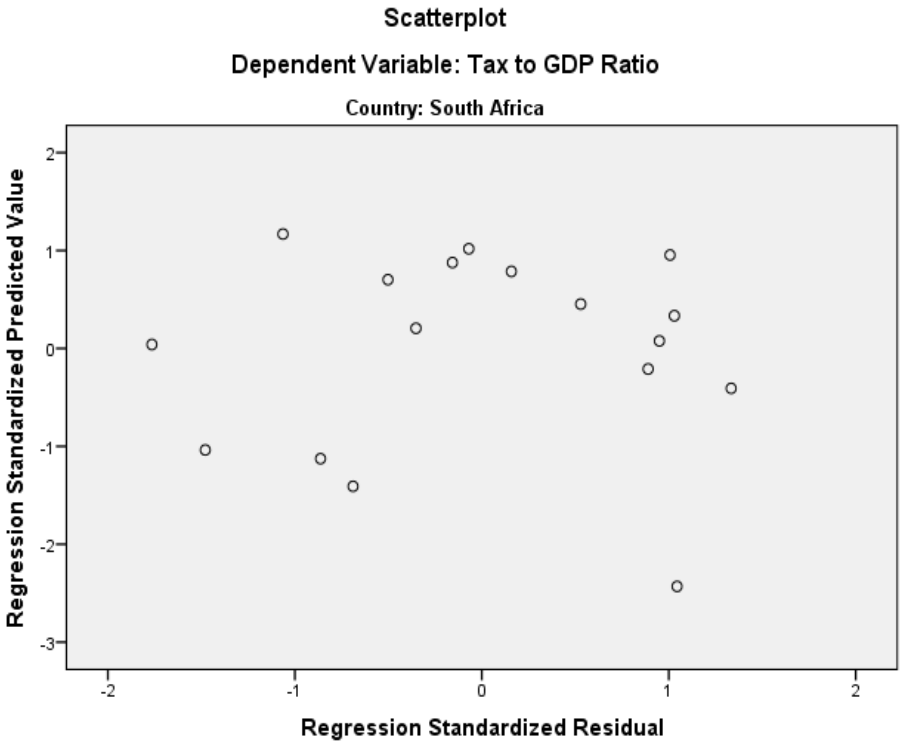

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Ghana
Regression Standardized Predicted Value
Regression Standardized Residual
1.0
0.5
0.0
-0.5
-1.0
-1.5
-1
0
1
2

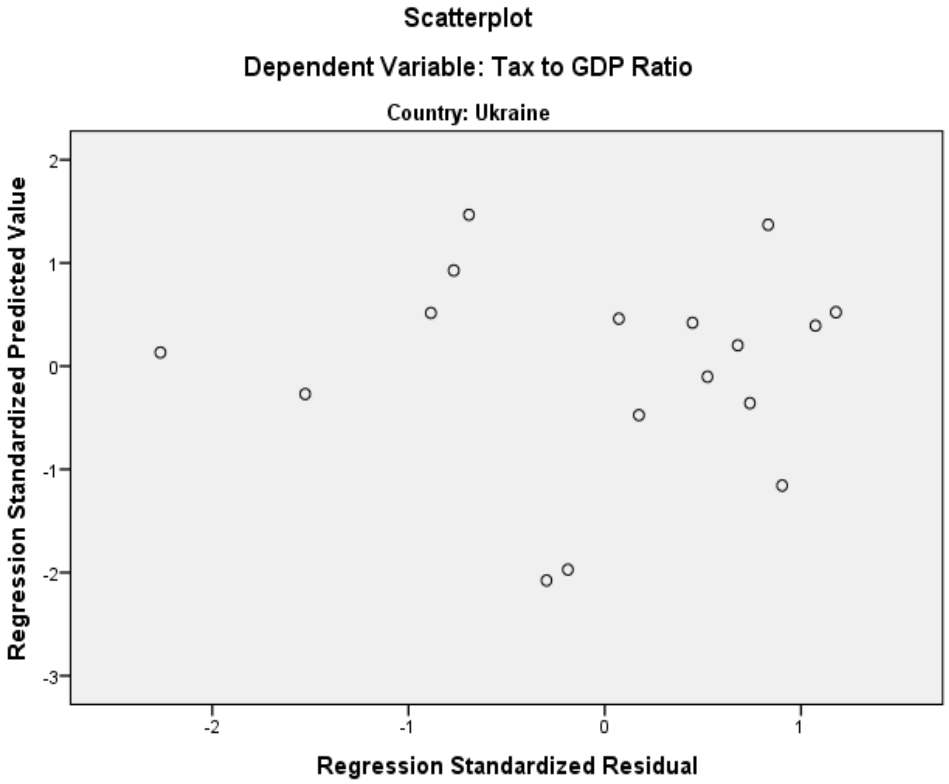

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: India
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-2
-1
0
1
2

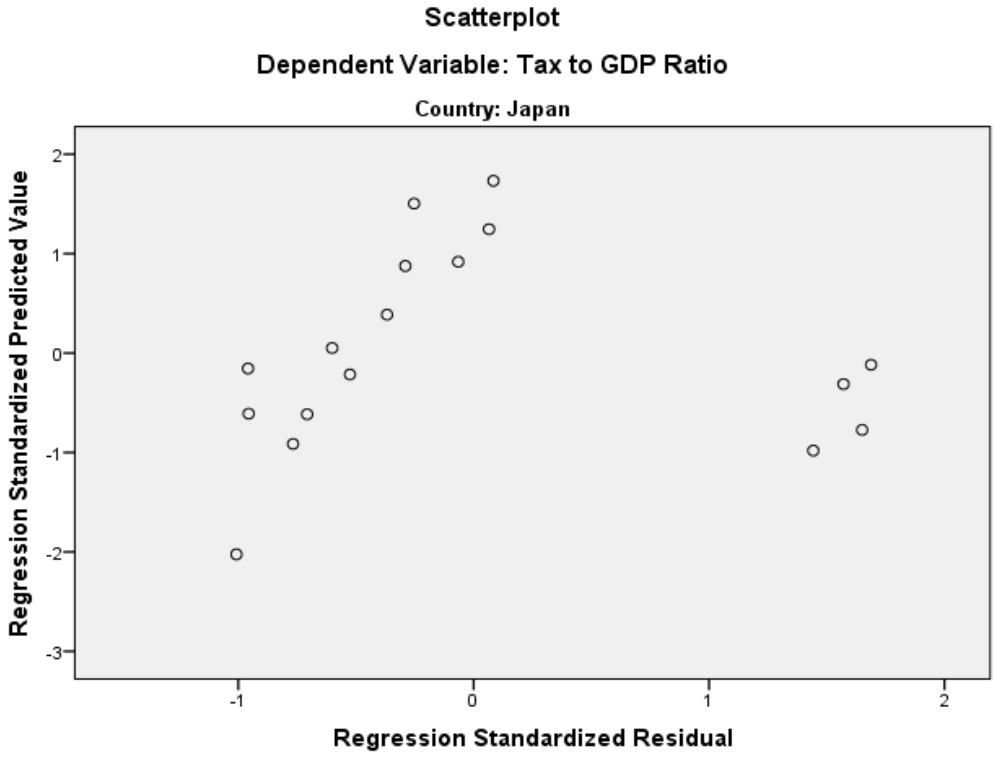

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Indonesia
Regression Standardized Predicted Value
Regression Standardized Residual
3
2
1
0
-1
-2
-2
-1
0
1
2

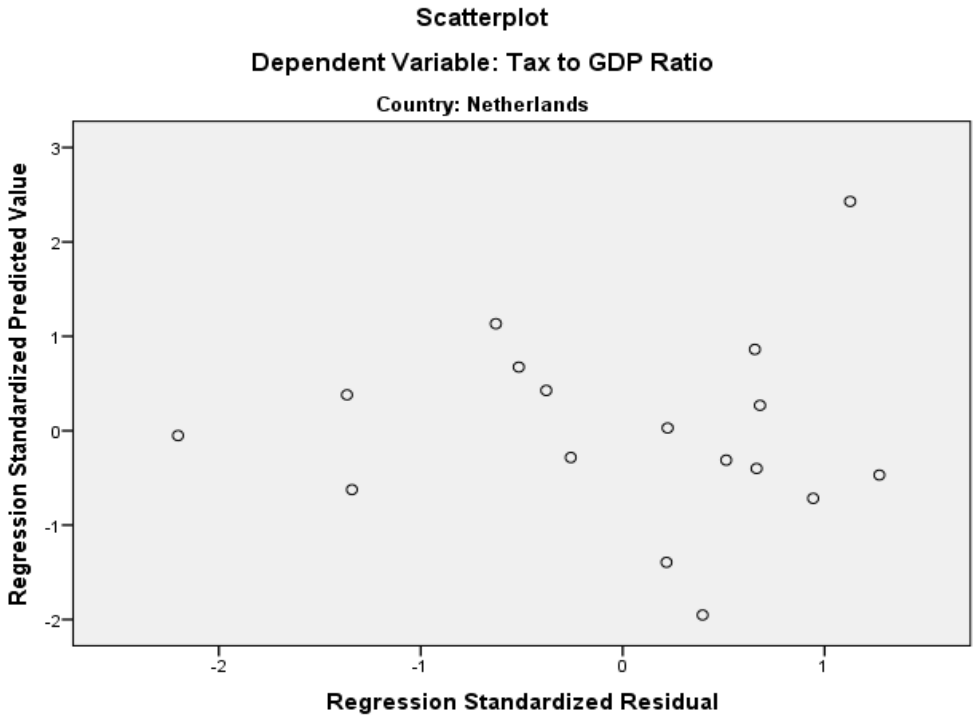

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Mauritius
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-4
-3
-2
-1
0
1

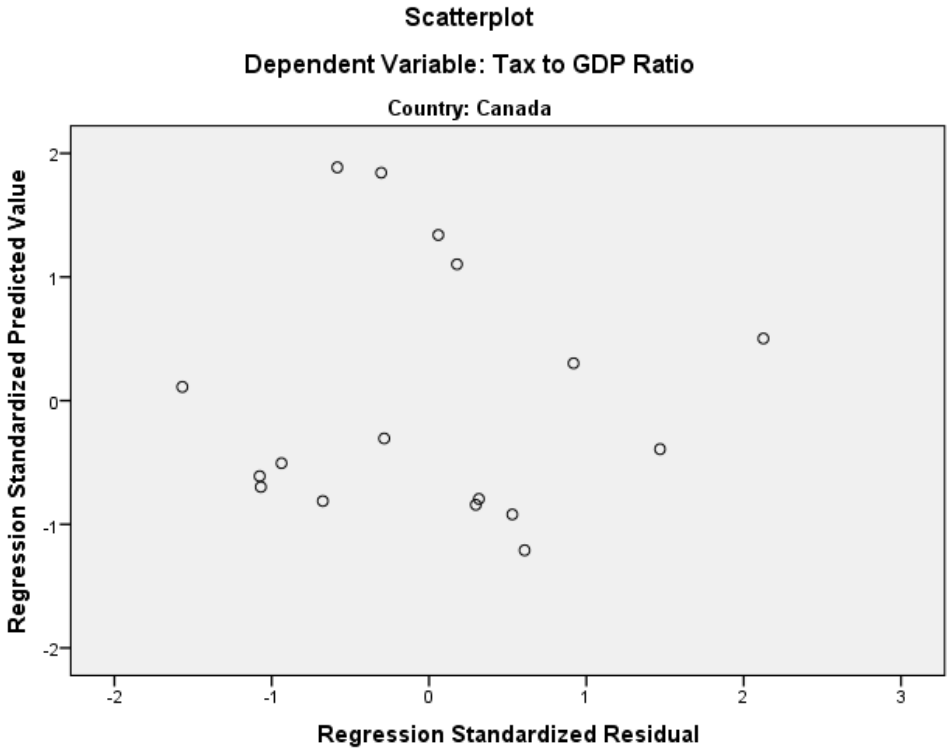

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Rwanda
Regression Standardized Predicted Value
Regression Standardized Residual
1.0
0.5
0.0
-0.5
-1.0
-1.5
-2
-1
0
1
2

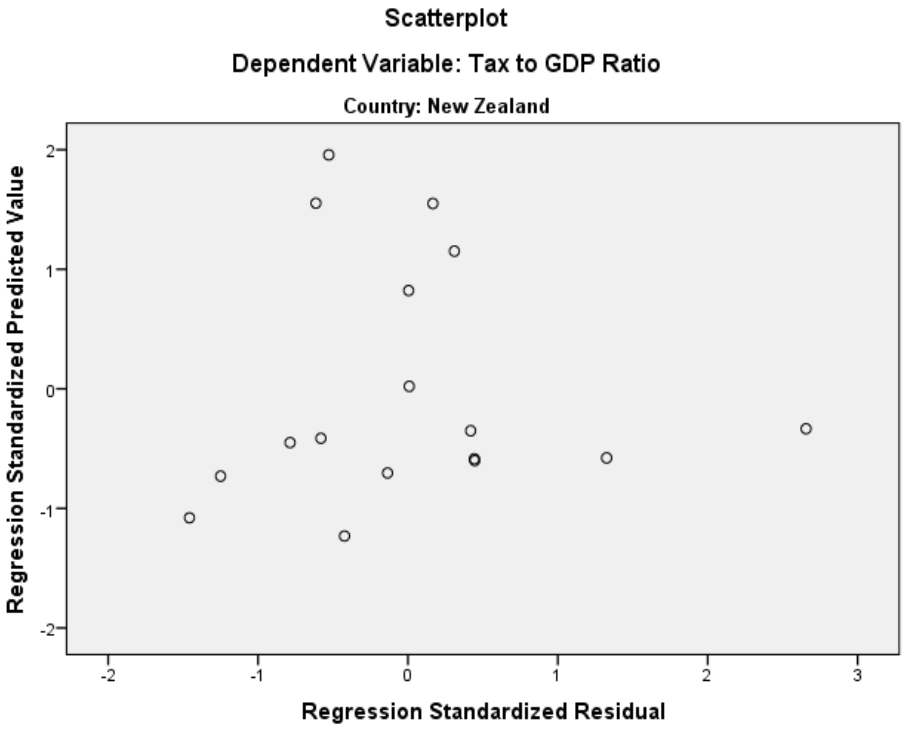

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: South Africa
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-3
-2
-1
0
1
2

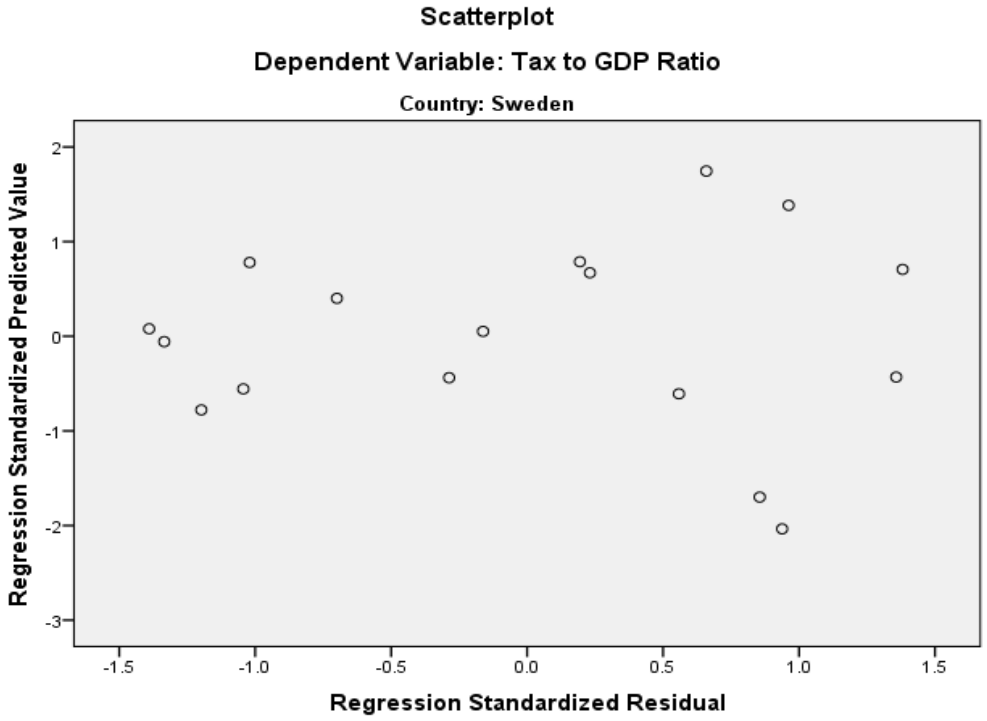

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Ukraine
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-3
-2
-1
0
1

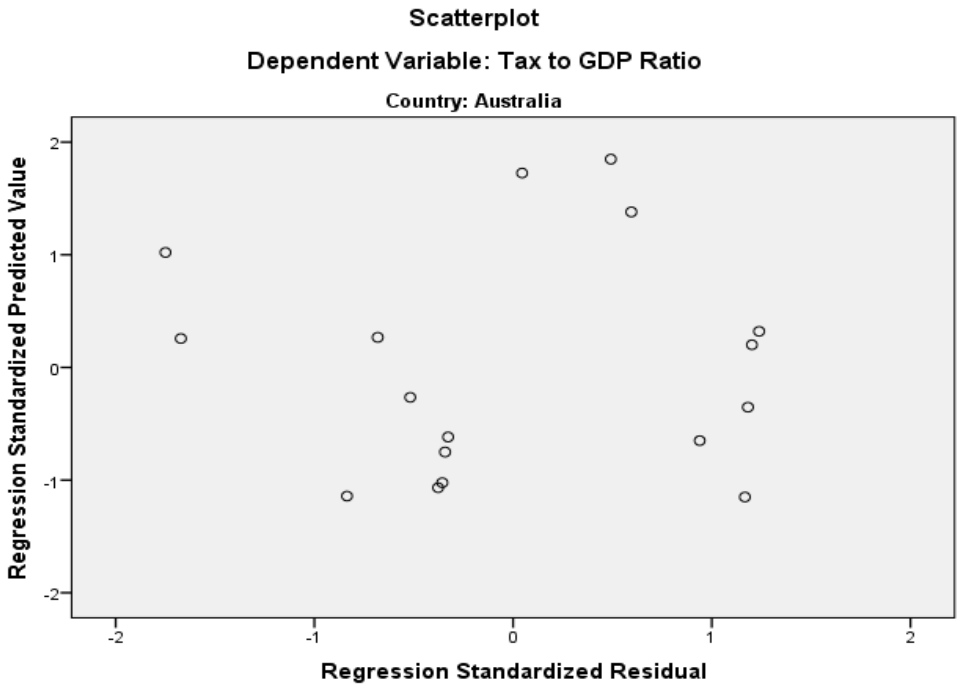

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Japan
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-3
-1
0
1
2

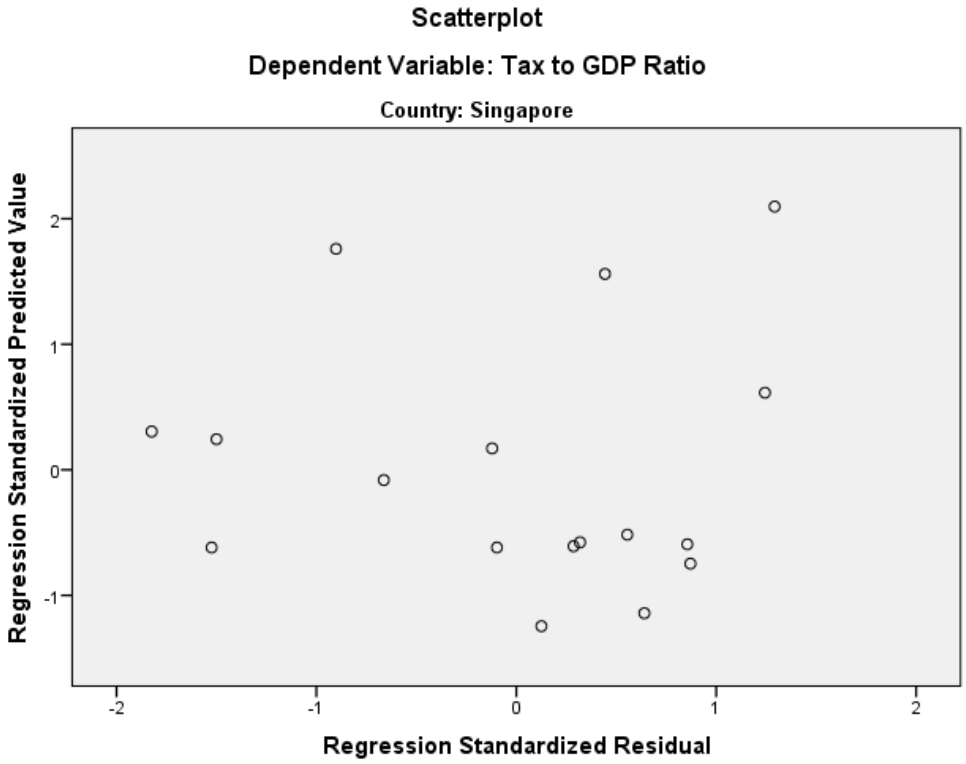

Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Netherlands
Regression Standardized Predicted Value
Regression Standardized Residual
3
2
1
0
-1
-2
-2
-1
0
1


Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Canada
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-2
-1
0
1
2
3


Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: New Zealand
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-2
-1
0
1
2
3


Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Sweden
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-3
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5


Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Australia
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-2
-1
0
1
2


Scatterplot
Dependent Variable: Tax to GDP Ratio
Country: Singapore
Regression Standardized Predicted Value
Regression Standardized Residual
2
1
0
-1
-2
-2
-1
0
1
2