Tax Compliance and Level of Tax Collection among Small and Medium Size Enterprises in Kiambu County, Kenya

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Abstract: *This study looked into the relationship between tax compliance and level of tax collection among small and medium size enterprises in Kiambu County, Kenya. Specifically, the study sought to establish the effect of tax registration, declaration of income, prompt payment of tax due and filing of returns on the level of tax collection among small and medium size enterprises in Kiambu County, Kenya. A descriptive survey design was used for the study. The study was limited to SMEs operating in Kikuyu Sub County of Kiambu as the study units. Secondary data was collected for the SMEs from the annual fiscal records of Kenya Revenue Authority for a period of 5 years between 2013 and 2017. In analyzing the quantitative data, the study used descriptive statistics that included percentages and frequencies. The analysis of the data was made with the help of Statistical Package for Social Sciences (SPSS version 23.0). Multiple regression analysis was used to establish the relationship among the study variables. The results of the study indicated that there existed a positive and significant relationship between tax registration and the level of tax collection among SMEs in Kikuyu Sub County ($\beta=0.681$, p-value=0.007); a positive and significant relationship between declaration of income and the level of tax collection among SMEs in Kikuyu Sub County ($\beta=0.707$, p-value=0.001; a positive and significant relationship between prompt payment of tax due and the level of tax collection among SMEs in Kikuyu Sub County ($\beta=0.782$, p-value=0.000 and a positive and significant relationship between filing of returns and the level of tax collection among SMEs in Kikuyu Sub County ($\beta=0.729$, p-value=0.000. Inflation was found to have a positive moderating effect on the relationship between tax registration, declaration of income, prompt payment of tax due as well as filing of returns and the level of tax collection among SMEs in Kikuyu Sub County. The study thus concluded that tax registration, declaration of income, prompt payment of tax due and filing of returns were predictors of the level of tax collection among SMEs in devolved units in Kenya. To enhance the level of tax collection among SMEs, the study recommends that the Kenya Revenue Authority should encourage tax registration, declaration of income, prompt settlement of tax due and filing of returns in this category of businesses.*

Keywords: Declaration of Income, Filing of Returns, Prompt Payment of Tax Due, Tax Registration, Tax Compliance, Tax Collection, Small and Medium Size Enterprises.

1. Introduction

In any economy, the collection of public revenue is essential. It is the key instrument that funds government projects and it is regarded as the fuel of the government in question (Muthama, 2013). Taxation, being the main public revenue generation mechanism, is important as it is the means by which resources are mobilized and provides a stable and reliable flow of revenue for the financing of government operation and developmental goals (Demilson, 2015). Globally, governments aim to use taxation to raise funds for financing both recurrent and development expenditures. Elyas (2016) also noted that governments use taxation funds for both social and physical infrastructural needs. Taxation is universally used by governments as a tool to promote economic growth and development by way of actualizing macro-economic objectives in areas of monetary and fiscal policies (Abiola & Asiweh, 2012). Without adequate revenues, governments would be unable to offer various crucial public services including education, water, health, infrastructure and security (Nsana, 2015). As such tax administration is a mechanism by which the government is able to raise much needed revenue to finance its various needs and obligations (Maiga, 2015). Consequently, tax compliance is critical in efforts to enhance generation of revenue for the government.

1.1 Tax Compliance

Non-compliance related to taxation has been there since the existence of taxes. Globally, colossal amounts of money are lost to non-compliance by taxpayers. This trend makes it increasingly difficult for successive governments to deliver their electoral promises to the electorates (Palil & Mustapha, 2011). Tax administrations are challenged with finding ways to characterize and describe the perceived forms of non-compliance and eventually find ways to reduce it. Getting taxpayers to comply with the necessary tax laws has been and is still a major concern for most tax administrators around the world since it is not easy to convince tax payers to comply with tax requirements (Graham, Hanlon, Shevlin & Shroff, 2013). This has an undesirable impact on the economy. Tax compliance measured by tax to GDP ratio remains a challenge for most countries, including both developed and developing. For instance, it is slightly over a third of GDP in the developed countries, 30-35 percent in Latin America and Caribbean countries and below 30% of GDP among the low income countries and particularly in Sub Saharan Africa (Richardson, 2016).

Studies conducted to evaluate small and medium-sized enterprises (SMEs) tax compliance rates across the globe indicate wide variations between developed and developing countries with compliance rates in North America and West Europe reported to be in the range of 60-80% (James & Alley, 2012; Kamleitner et al., 2012). However, studies

conducted in developing countries have reported much lower levels of tax compliance among the SMEs with Abiola and Asiweh (2012) reporting a rate of 26% in Nigeria; Kayaga (2012) found a rate of 16% in Uganda while Maseko (2013) found the rate to be 21% in Zimbabwe. Factors such as poor attitudes towards tax compliance, high penalties on non-compliance, low incomes, inadequate knowledge of tax laws, corruption, high marginal tax rates, inability to adopt computerized tax systems, poor record keeping, tax laws that are ambiguous, ineffectiveness in the administration of taxes, weak regulatory systems and a non-adherence culture, have been attributed to the low tax compliance rates among SMEs in the developing countries (Elmi, 2015; Baurer, 2015).

1.2 Small and Medium Size Enterprises

Today, world over, SMEs are recognized for the important roles they play in the development of economies. SMEs are often said to be the fuel that fuels national economies, job creators and the seeds of big enterprises (Aris, 2014). Even in economies that are developed SMEs rather than the multinationals are the biggest employers (Rupasingha & Goetz, 2013). Today, SMEs are recognized as the major source of innovation, flexibility and dynamism in both developing and developed economies (Yusof & Aspinwall, 2010). The changing role of SMEs more so in developing nations position the institutions as the engines that can enable the achievement of the countries' growth goals (Toma, Grigore & Marinescu, 2014).

In Kenya, like in other developing nations, SMEs are the main source of employment and provide immense economic benefits to the country (Kuria, 2016). The 1999 National Micro and Small Enterprise Baseline Survey defined SMEs as business enterprises that employ 1 to 50 employees (Republic of Kenya Sessional paper No.2, 2005). In Kenya, SMEs cut across the manufacturing, agricultural, financial, transport, building and construction, wholesale and retail business sectors. The Government of Kenya as the sole regulator and licensor of all registered businesses in the country plays a crucial role in SME development (Muguchu, 2013).

1.3 Problem Statement

The importance of raising adequate revenues to the operation of governments cannot be overstated (Redae, 2016). It is through revenue generation that governments are able to finance their recurrent and development expenditures. It is also through the revenue collected that governments are able to provide public goods and services such as security, education, infrastructure, social security and health (McKerchar & Evans, 2014). Governments also use revenue generation to spur economic growth through investments in productive assets and employment creation (Abeiku, 2014). Despite the aforementioned importance of revenue generation, revenue under collection is common in both the developed and developing economies and the situation is no different in Kenya where revenue collection, both at the national and county governments, remains low (Kinoti, 2016). For instance, the Kenya Revenue Authority missed its target by 7.7% in 2014/15 and by 5.2% in

2015/16 (Republic of Kenya, 2016). In Kiambu County, the National Government through the KRA collected a total of KES 2.1b against a target of KES 3.0b in 2014/15 and a total of KES 2.4b against a target of KES 3.3b in 2015/2016 (Kiambu County Government, 2016). This clearly illustrates that, under collection of revenues, both at the National and County levels in Kenya is real (Kinoti, 2016). However, despite the SME sector being a key component of Kenya's economy, there was dearth of empirical research as to the effect of their tax compliance on the level of tax collection in the country, which necessitated the current study.

1.4 Study Objectives

The general objective of the study was to investigate the effect of tax compliance on level of tax collection among small and medium size enterprises in Kiambu County, Kenya. The study was however based on the following specific objectives;

1) To determine the effect of tax registration on level of tax collection among small and medium size enterprises in Kiambu County, Kenya.
2) To analyze the effect of declaration of income on level of tax collection among small and medium size enterprises in Kiambu County, Kenya.
3) To evaluate the effect of prompt payment of tax due on level of tax collection among small and medium size enterprises in Kiambu County, Kenya.
4) To examine the effect of filing of returns on level of tax collection among small and medium size enterprises in Kiambu County, Kenya.
5) To establish the moderating effect of inflation on the relationship between tax compliance and level of tax collection among small and medium size enterprises in Kiambu County, Kenya.

2. Theoretical Framework

The study was guided by the Theory of Planned Behaviour and Deterrence Theory, as elaborated herein;

2.1 Theory of Planned Behaviour

Icek Ajzen developed this theory in 1985. This theory tries to give an explanation on human behavior. It explains that people's behaviour in the society is influenced by certain factors/reasons that emerge in a planned manner (Benk, Cakmak & Budak, 2011). The theory argues that the ability to engage in a given behavior is affected by the behavior intention or if the person has a purpose towards the given behavior. The behavioral intention is affected by three factors including the attitude towards the behavior, perceived behavioral control and subjective norms. These factors are further affected by normative beliefs, behavioral beliefs and control beliefs (Dajana, 2015).

The focus of this theory, when applied to tax compliance, is on the taxpayer's ethics and morals. This theory lays emphasis on changing of taxpayers' attitudes towards tax systems (Bobek & Hatfield, 2013). According to Afuberoh (2014), one of the main ways in which the attitude of individual taxpayers can be positively modified is through creating awareness among the taxpayers on the need for

them to comply with government taxes. This can be achieved through tax education programs tailored towards informing the taxpayers on their obligations of tax compliance, educating them on how to register for taxation, how to compute their tax liability, how to promptly make the tax payments to the relevant government agencies as well as how to file their tax returns.

2.2 Deterrence Theory

This theory can be seen in the early works of philosophers such as Thomas Hobbes (1588–1678), Cesare Beccaria (1738–1794) and Jeremy Bentham (1748–1832). According to the theory, if the consequence of committing a crime is much worse than the benefit from it, a person will restrain from committing the crime. The theory is based on the premise that every person knows right from wrong and they are also aware of the consequences of committing a crime/a wrong (Anyaduba, Eragbhe & Kennedy, 2012). Proponents of deterrence theory believe that individuals make a choice between doing right or wrong after evaluating the consequences of both actions. Those who support this theory argue that if there is a severe, swift and certain punishment, a rational individual will consider the gains and losses before engaging in wrongdoing and a greater loss than gain

will discourage him or her from committing the wrong. This theory thus advocates preventing or controlling certain undesired actions or behaviors through fear of punishment or retribution (Chauke & Sebola, 2016). In the realm of taxation, a taxpayer who thinks rationally will evade paying taxes if the gains from the evading of tax payments are greater than the cost of being caught (Mutarindwa & Rutikanga, 2014). Based on this theory, tax compliance can be enhanced through punitive sanctions (Afuberoh, 2014).

3. Conceptual Framework

The conceptual framework is a visual overview of the study variables. It thus provides a quick glimpse of the study's key variables (Mugenda & Mugenda, 2009). In this study, the dependent variable was level of tax collection which was analyzed using the amount of taxes collected by Kenya Revenue Authority in Kikuyu Sub County of Kiambu while the independent variable was tax compliance which was analyzed using its constituent constructs which included; tax registration, declaration of income, prompt payment of tax due and filing of returns. The conceptual framework was thus as follows;
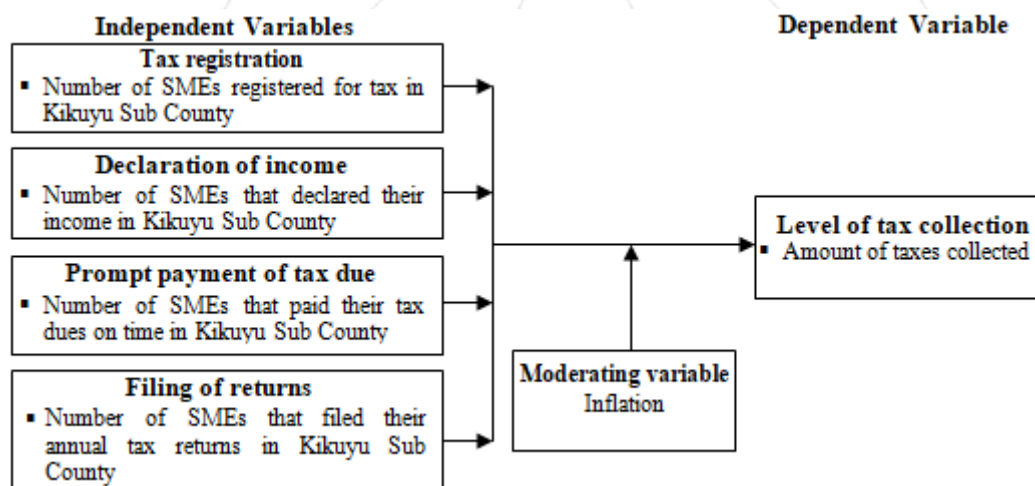
4. Research Methodology

This study adopted positivism research philosophy. According to Kothari (2004), this philosophy involves the collection and analysis of data and uses numerical data as evidence to come up with inferences or to test the study's hypothesis. Since the current study was based on secondary data that took the form of numbers, this philosophy was appropriate for the study.

This study adopted a descriptive survey research design. The object of descriptive research is to generate an accurate understanding of behaviours, events or situations (Kothari, 2004). Mugenda and Mugenda (2009) state that descriptive research design is a method which enables the researcher to summarize and organize data in an effective and meaningful way. The design was ideal as it allowed the researcher to describe the research subject without any bias or manipulation (Kothari, 2004).

Target population in statistics is the specific population about which information is desired. The target population of this study, and which was the unit of analysis, was SMEs operating in Kikuyu Sub County of Kiambu County, Kenya. As of 2017, there were 4,732 registered SMEs operating in Kikuyu Sub County of Kiambu County. These formed the current study's target population. The Kiambu County Government defines SMEs as those registered business enterprises with 10-99 employees and an annual turn over of below KES 5 million. Given that the study was based on secondary data, all (n=4,732) SMEs were included in the study sample. However, the final analysis was done on 3,200 SMEs that had an active status on KRA' itax platform which meant that they engaged on the various elements of tax compliance under study namely tax registration, declaration of income, prompt payment of taxes due and filing of annual returns.

This study was based on secondary data which was collected using a Secondary Data Collection Sheet. The data was

extracted from the annual fiscal records of Kenya Revenue Authority for a period of 5 years between 2013 and 2017. The five year period allowed the researcher to perform a trend analysis of the study variables in order to deduce the relationship between SMEs' tax compliance and level of tax collection in Kikuyu Sub County of Kiambu County, Kenya.

The collected data was coded after sorting and classified into different components for easier analysis. Both descriptive statistics and inferential analysis were used. The analysis was done with the assistance of Statistical Package for Social Sciences (SPSS V. 23.0). Multiple linear regression analysis was used to test the relationship between the study variables. F-statistic at 5% significance level was used to test the overall significance of the model while the regression estimators were tested for significance using t-test statistic at 5% level of significance. Before conducting the regression analysis, diagnostic tests, including normality, homoscedasticity and multicollinearity tests, were carried out. The multiple regression model specification was as follows;

Model 1:
$Y_i = \beta_0 + \beta_1 TR + \beta_2 DI + \beta_3 PPTD + \beta_4 FR + \beta_5 I + \varepsilon$
Where;
Y = Level of tax collection (The dependent variable)
TR = Tax registration; DI = Declaration of income; PPTD = Prompt payment of tax due; FR = Filing of returns (the independent variables)
I = Inflation (moderator)
β_0 = Value of response variable when all predictors equal zero
$\beta_1 - \beta_5$ = Coefficients of independent variables
ε = error term

Model 2:
$Y_i = \beta_0 + \beta_1 TC + \beta_2 I + \beta_3 TC * I + \varepsilon$
Where;
β_1 = Coefficient of the composite index of tax compliance
β_2 = Coefficient of the moderator (Inflation)
β_3 = Coefficient relating to the interaction of inflation and tax compliance

5. Results and Discussions

5.1 Tax Registration and Level of Tax Collection

Tax registration is one of the conditions for tax compliance. The study sought to determine the effect of tax registration on level of tax collection among SMEs in Kiambu County, Kenya. The study first showed the number of SMEs registered for tax in Kikuyu Sub County for the period 2013 to 2017. The findings are as shown in Table 4.1.

Table 4.1: Number of SMEs registered for tax in Kikuyu Sub County

Year	Number of SMEs registered for tax	% change
2013	957	-
2014	1,150	20.2
2015	1,540	33.9
2016	2,152	39.7
2017	3,014	40.1

Source: KRA, Kiambu County Office

Table 4.1 indicates that, over the 5-year period, the number of SMEs registered for tax in Kikuyu Sub County increased from 957 in year 2013 to 3,014 in year 2017. This represented an overall positive change in the number of SMEs registered for tax in Kikuyu Sub County of 214.9% over the 5 year period. Further, the results indicate that the year-to-year percentage change in the number of SMEs registered for tax in Kikuyu Sub County consistently increased over the 5-year period, with the highest increase being 40.1% between 2016 and 2017 while the lowest increase was 20.2% between 2013 and 2014. This showed that on the overall there was an increase in the number of SMEs registered for tax in Kikuyu Sub County over the 5-year period. This agreed with Mburugu (2016) who established that the Kenya Revenue Authority had achieved tremendous progress in increasing the number of small and medium enterprises registered for tax in the post new constitution era. Similar sentiments were shared by Umar et al. (2017) who noted that in the recent past, Kenya's tax collection agency had made huge strides in bringing all kinds of businesses, small and big, into taxation with a view of enhancing the country's fiscal performance.

5.2 Declaration of Income and Level of Tax Collection

Declaration of income is another condition for tax compliance. The study sought to analyze the effect of declaration of income on level of tax collection among SMEs in Kiambu County, Kenya. The study first showed the number of SMEs that declared their incomes in Kikuyu Sub County for the period 2013 to 2017. The findings are as shown in Table 4.2.

Table 4.2: Number of SMEs that declared their incomes in Kikuyu Sub County

Year	Number of SMEs that declared their incomes	% change
2013	683	-
2014	864	26.5
2015	1,217	40.9
2016	1,761	44.7
2017	2,065	17.3

Source: KRA, Kiambu County Office

Table 4.2 indicates that, over the 5-year period, the number of SMEs that declared their incomes in Kikuyu Sub County increased from 683 in year 2013 to 2,065 in year 2017. This represented an overall positive change in the number of SMEs that declared their incomes in Kikuyu Sub County of 202.3% over the 5 year period. Further, the results indicate that the year-to-year percentage change in the number of SMEs that declared their incomes in Kikuyu Sub County fluctuated over the 5-year period, with the highest increase being 44.7% between 2015 and 2016 while the lowest increase was 17.3% between 2017 and 2016. This showed that on the overall there was an increase in the number of SMEs that declared their incomes in Kikuyu Sub County over the 5-year period. This agreed with Majiwa (2016) who also found a positive trend in the number of businesses that declared their incomes to Kenya Revenue Authority in the five years following the adoption and implementation of the new constitution in Kenya. However, in contrast Elyas (2016) in a study of the effect of revenue collection on the performance of local authorities in Ethiopia reported a

decline in the number of business firms that voluntarily declared their incomes to the country's tax collection agency.

5.3 Prompt Payment of Tax Due and Level of Tax Collection

Payment of tax is another condition for tax compliance. The study sought to evaluate the effect of prompt payment of tax due on level of tax collection among small and medium size enterprises in Kiambu County, Kenya. The study first showed the number of SMEs that paid their tax dues on time in Kikuyu Sub County for the period 2013 to 2017. The findings are as shown in Table 4.3.

Table 4.3: Number of SMEs that paid their tax dues in Kikuyu Sub County

Year	Number of SMEs that paid their tax dues on time in Kikuyu Sub County	% change
2013	692	-
2014	871	25.9
2015	1,223	40.4
2016	1,745	42.7
2017	2,190	25.5

Source: KRA, Kiambu County Office

Table 4.3 indicates that, over the 5-year period, the number of SMEs that paid their tax dues on time in Kikuyu Sub County increased from 692 in year 2013 to 2,190 in year 2017. This represented an overall positive change in the number of SMEs that paid their tax dues on time in Kikuyu Sub County of 216.5% over the 5 year period. Further, the results indicate that the year-to-year percentage change in the number of SMEs that paid their tax dues on time in Kikuyu Sub County fluctuated over the 5-year period, with the highest increase being 42.7% between 2015 and 2016 while the lowest increase was 25.5% between 2017 and 2016. This showed that on the overall there was an increase in the number of SMEs that paid their tax dues on time in Kikuyu Sub County over the 5-year period. This agreed with Anderson (2013) and Brinsley (2014) who reported an increase in the number of businesses that paid their tax liabilities on time in Netherlands and USA, respectively. However, in contrast Kamil (2016) found that there was a decline in the number of business firms that paid their tax dues in time in Pakistan.

5.4 Filing of Returns and Level of Tax Collection

Filing of returns is yet another condition for tax compliance. The study sought to examine the effect of filing of returns on level of tax collection among small and medium size enterprises in Kiambu County, Kenya. The study first showed the number of SMEs that filed their annual tax returns in Kikuyu Sub County for the period 2013 to 2017. The findings are as illustrated in Table 4.4.

Table 4.4: Number of SMEs that filed their annual tax returns in Kikuyu Sub County

Year	Number of SMEs that filed their annual tax returns	% change
2013	617	-
2014	802	30.0
2015	1,055	31.5
2016	1,583	50.0
2017	1,945	22.9

Source: KRA, Kiambu County Office

Table 4.4 indicates that, over the 5-year period, the number of SMEs that filed their annual tax returns in Kikuyu Sub County increased from 617 in year 2013 to 1,945 in year 2017. This represented an overall positive change in the number of SMEs that filed their annual tax returns in Kikuyu Sub County of 215.2% over the 5 year period. Further, the results indicate that the year-to-year percentage change in the number of SMEs that filed their annual tax returns in Kikuyu Sub County fluctuated over the 5-year period, with the highest increase being 50% between 2015 and 2016 while the lowest increase was 22.9% between 2017 and 2016. This showed that on the overall there was an increase in the number of SMEs that filed their annual tax returns in Kikuyu Sub County over the 5-year period. This concurred with Kinoti (2016) who reported an increase in the number of businesses that filed their annual tax returns in Nairobi City County. Similar findings were reported by Onoja (2015) who also found an increasing trend in the number of businesses that filed their annual tax returns in Abuja, Nigeria.

5.5 Inflation, Tax Compliance and Level of Tax Collection

Inflation, which is a measure of the increase in general price level of goods and services in an economy, is one of the macro-economic variables which impact the general economy and hence affects businesses. The objective of the study was to establish the moderating effect of inflation on the relationship between tax compliance and level of tax collection among small and medium size enterprises in Kiambu County, Kenya. The study first showed the levels of inflation in Kenya over the period 2013 to 2017. The findings are as depicted in Table 4.5.

Table 4.5: Annual inflation levels in Kenya, 2013-2017

	Annual inflation rates (%)
2013	5.717
2014	6.878
2015	6.582
2016	6.297
2017	8.006

Source: The World Bank (2019)

Table 4.5 indicates that the annual inflation rate in Kenya fluctuated over the 5-year period, increasing from 5.717% in 2013 to 6.878% in 2014 then decreasing to 6.297% in 2016 and then increasing to 8.006% in 2017. These statistics however indicate that the country's inflation level was generally on an upward trend over the 5-year period with the increase from 5.7% in 2013 to 8% in 2017 representing an overall positive change in the country's inflation level of 40%, over the 5 year period. This agreed with the findings of a survey by Cytonn (2018) who observed that the country's annual inflation rate had increased from a low of 5.7% in 2013 to a high of 8% in 2017. Similar observations were made by the Central Bank of Kenya in its annual reports on the countries' inflation level (CBK, 2018).

5.6 Level of Tax Collection in Kikuyu Sub County

The level of tax collection indicates the amount of taxes that a tax collection agency was able to collect from a given jurisdiction. The study analysed the level of tax collection in Kikuyu Sub County, Kiambu County over the 5 year period between 2013 and 2017 on the basis of registered SMEs on the online platform. The results are shown in Table 4.6.

Table 4.6 Level of tax collection in Kikuyu Sub County

Year	Amount of taxes collected (KES. 'Millions')	% change
2013	30.12	-
2014	117.28	289.4
2015	222.91	90.1
2016	319.06	43.1
2017	243.80	-23.6

Source: KRA, Kiambu County Office

Table 4.6 indicates that, over the 5-year period, the aggregate amount of taxes collected in Kikuyu Sub County increased from an amount of Kshs. 30.12 million in year 2013 to an amount of Kshs. 243.80 million in year 2017. This represented an overall positive change in the level of tax collections in Kikuyu Sub County of 709.4% over the 5 year period. However, closer scrutiny of the amount of taxes collected indicates that the year-to-year percentage increase decreased over the 5-year period with the highest increase being 289.4% between 2013 and 2014 while the amount of taxes collected in 2017 were lower by 23.6% compared with the 2016 tax collections. This showed that on the overall the tax collection performance in Kikuyu Sub County was on a positive trajectory over the 5-year period. This agreed with Mburugu (2016) and Kinoti (2016) who also reported that there was increased tax revenue collections by Kenya's tax agency in the newly devolved units compared with the amounts of taxes collected from the older local government units that existed before the adoption and implementation of the new Kenyan constitution dispensation. Similar observations were reported in Nigeria by Abiola and Asiweh (2012) with the levels of tax collection reported to have increased following decentralization of the tax administration function to the federal units.

5.7 Diagnostic Tests Results

Prior to performing regression analysis, the study performed various diagnostic tests which included normality, homoscedasticity and multicollinearity tests. These tests were critical in ensuring that the study data met the specific assumptions for the proposed regression analysis.

5.7.1 Tests of Normality
In this study, normality of the data was tested using the Shapiro – Wilk test. The significance level for this study was $p = 5\%$. For $p \geq 0.05$ normality was assumed while for $p < 0.05$ deviation from normality was assumed. The normality tests results are as shown in Table 4.7.

Table 4.7: Tests of Normality

Variables	Shapiro-Wilk		
	Statistic	df	Sig.
Tax registration	.927	5	.579
Declaration of income	.938	5	.650
Prompt payment of tax due	.945	5	.704
Filing of returns	.940	5	.663
Level of tax collection	.963	5	.831

Source: Research Data (2019)

Table 4.7 indicates that the significance values for the Shapiro-Wilk tests were 0.579 for tax registration, 0.650 for declaration of income, 0.704 for prompt payment of tax due, 0.663 for filing of returns and 0.831 for level of tax collection. Given that the p-values of Shapiro-Wilk tests for the study variables were greater than the chosen alpha level of 0.05 then the study accepted the hypothesis that the data came from a normally distributed population. The results of the tests are therefore of a normally distributed population. There being no violation of normality in the study data meant that regression analysis could be carried out.

5.7.2 Homoscedasticity Tests
In this study homoscedasticity was tested using the Levene test for equality which was computed using one way Anova procedure. For the Levene test for equality, the null hypothesis is that the variance is equal across groups. Homoscedasticity is evident when the p value is greater than 0.05 while a p value of less than 0.05 indicates a violation of the assumption (Garson, 2012). The results for the homoscedasticity tests were as shown in Table 4.8.

Table 4.8: Test for Homoscedasticity

Variables	Levene test for equality	
	Levene Statistic	Sig.
Tax registration	6.172	.385
Declaration of income	5.804	.422
Prompt payment of tax due	7.439	.317
Filing of returns	4.727	.514
Level of tax collection	6.360	.278

Source: Research Data (2019)

According to Table 4.8, the Levene test for equality significance values for the study variables were as follows; 0.385 for tax registration, 0.422 for declaration of income, 0.317 for prompt payment of tax due, 0.514 for filing of returns and 0.278 for level of tax collection. Given that the p-values of Levene test for equality for the study variables were greater than the chosen alpha level of 0.05, the study failed to reject the null hypothesis and concluded that the error variance was equal across groups and thus heteroscedasticity was not a problem in the study data. There being no violation of the homoscedasticity assumption in the study data meant that regression analysis could be carried out.

5.7.3 Multicollinearity Test
Multicollinearity in this study was tested using Variance Inflation Factor (VIF) and Tolerance values with VIF values ≤ 3 and Tolerance values > 0.1 indicating no multicollinearity among the study variables. The results of the multicollinearity tests are as shown in Table 4.9.

Table 4.9: Multicollinearity tests results

Variables	Collinearity Statistics	
	VIF	Tolerance
Tax registration	1.391	0.719
Declaration of income	1.584	0.631
Prompt payment of tax due	1.42	0.704
Filing of returns	1.131	0.884

Source: Research Data (2019)

From the multicollinearity tests results shown in Table 4.9, there was no multicollinearity among the independent variables of the study since their VIF values were all less than 3 while their Tolerance Statistics values were all > 0.1. There being no multicollinearity in the study data meant that regression analysis could be carried out.

In conclusion, the results of all the diagnostic tests showed that there was no violation and therefore to determine the relationship between the predictor variables and the level of tax collection among SMEs in Kikuyu Sub County of Kiambu County in Kenya, regression analysis was carried out.

5.8 Regression Analysis Results

The model summary results are as shown in Table 4.10.

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.765	.718	1.1018

Predictors: (Constant), tax registration, declaration of income, prompt payment of tax due and filing of returns

Source: Research Data (2019)

In line with Table 4.10, the value of R square (denoting the coefficient of determination) was 0.765 implying that 76.5% of variation in the level of tax collection in Kikuyu Sub County, Kiambu County was due to variations in the levels of tax registration, declaration of income, prompt payment of tax due and filing of returns of SMEs operating in the Sub county. As such, 23.5% of variations in the level of tax collection in Kikuyu Sub County was explained by factors not in the study model.

To ascertain whether the regression model was fit, analysis of variance was conducted. Table 4.11 contains the results.

Table 4.11: ANOVA (Analysis of Variance)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.704	4	22.676	16.241	.0000[a]
	Residual	27.924	20	1.3962		
	Total	118.628	24			

a. Predictors: (Constant), tax registration, declaration of income, prompt payment of tax due and filing of returns
b. Dependent Variable: Level of tax collection
Source: Research Data (2019)

From the findings in Table 4.11, the significance value is .0000 which is less that 0.05 implying that the study's regression model was statistically significant in predicting how the predictor variables (tax registration, declaration of income, prompt payment of tax due and filing of returns)

influenced the response variable (level of tax collection) in Kikuyu Sub County. The F critical at 5% significance level was 2.68. Since F calculated (value = 16.241) was greater than the F critical (2.68), this also showed that the overall model was fit. Thus, the analysis of variance confirmed that the model was fit.

Since, the overall model was fit regression analysis was carried out for all the variables. The results were as in Table 4.12.

Table 4.12: Regression coefficients results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.481	.542		6.423	.000
Tax registration [TR]	0.681	.226	.588	3.013	.007
Declaration of income [DI]	0.707	.187	.625	3.781	.001
Prompt payment of tax due [PPTD]	0.782	.151	.716	5.179	.000
Filing of returns [FR]	0.729	.173	.663	4.214	.000

Source: Research Data (2019)

Based on the results shown in Table 4.12, the regression model becomes;

$$Y = 3.481 + 0.681\ TR + 0.707\ DI + 0.782\ PPTD + + 0.729\ FR$$

Tax registration being one of the aspects of tax compliance, the study hypothesized that tax registration had no effect on level of tax collection among small and medium size enterprises in Kikuyu Sub County, Kenya. Table 4.12 indicates that there was a positive and significant relationship between tax registration and the level of tax collection with a beta coefficient of 0.681 and a p-value of 0.007 which was < 0.05. Consequently, the hypothesis was rejected. The results implied that tax registration was a critical predictor of the level of tax collection among small and medium sized enterprises in devolved units in Kenya. The result concurred with Muthama (2013) and Brinsley (2014) who also found a positive and significant association between tax registration and levels of taxes collected.

On the second aspect of tax compliance, declaration of income, the study hypothesized that declaration of income had no effect on level of tax collection among small and medium size enterprises in Kikuyu Sub County, Kenya. Table 4.12 indicates that there was a positive and significant relationship between declaration of income and the level of tax collection with a beta coefficient of 0.707 and a p value of 0.001 which is < 0.05. As such the hypothesis was rejected. This implied that declaration of income was a critical predictor of the level of tax collection among small and medium sized enterprises in devolved units in Kenya. The result was in contrast with that of Ndekwa (2014) who failed to find any significant association between declaration of income and level of tax collection in Tanzania. However, the result agreed with that of Nduruhu (2016) who also reported a positive and significant association between

declaration of income as a tax compliance measure and the level of tax collection in Kenya.

On the third aspect of tax compliance, prompt payment of tax due, the study hypothesized that prompt payment of tax due had no effect on level of tax collection among small and medium size enterprises in Kikuyu Sub County, Kenya. Table 4.12 showed there was a positive and significant relationship between prompt payment of tax due and the level of tax collection with a beta coefficient of 0.782 and a p value of 0.000 which is < 0.05. As such the hypothesis was rejected. This implied that prompt payment of tax due was a critical predictor of the level of tax collection among small and medium sized enterprises in devolved units in Kenya. Similar findings were reported by Abiola and Asiweh (2012) in Nigeria and Elyas (2016) in Ethiopia.

Another aspect of tax compliance was filing of returns. The study hypothesized that filing of returns had no effect on level of tax collection among small and medium size enterprises in Kikuyu Sub County, Kenya. Table 4.12 showed that there was a positive and significant relationship between filing of returns and the level of tax collection with a beta coefficient of 0.729 and a p-value of 0.000 which is < 0.05. The hypothesis was therefore rejected. This implied that filing of returns was a critical predictor of the level of tax collection among small and medium sized enterprises in devolved units in Kenya. The result agreed with that of Alade and Oshode (2013) who in a study of the impact of tax audit and investigation on revenue generation in Nigeria reported existence of a significant positive relationship between the level of filing of returns among business organizations and the level of tax collection. Similar findings were also reported by Oladipupo (2016) and Redae (2016).

5.9 Testing for the Moderation Effects of Inflation

The moderation effect of inflation on the relationship between tax compliance and level of tax collection among small and medium size enterprises in Kiambu County, Kenya is as summarized in Table 4.13.

Table 4.13: Summary of regression results for the moderating effect

Parameter	Step 1	Step 2	change	Conclusion
R^2	0.728	0.764	0.036	Reject the null hypothesis and conclude that there was evidence of moderating effect of GDP fluctuations
Adjusted R^2	0.716	0.730	0.014	
F Value	61.581	22.643	-38.938	
β Constant	4.785	5.615	0.83	
β Tax compliance	0.723	0.731	0.008	
β Inflation	-	0.248	0.248	
β Tax compliance * Inflation	-	0.519	0.519	

Source: Research Data (2019)

The study had hypothesized that inflation had no moderating effect on the relationship between tax compliance and level of tax collection among SMEs in Kiambu County, Kenya. However, given the change in R squared value of 0.036, that is, from a value of 0.728 for the model without the moderator to a value of 0.764 in the model with the moderator, the study failed to accept the hypothesis.

Consequently, it was concluded that inflation indeed moderated the said relationship.

6. Conclusions

Based on the results of the study, several conclusions were drawn. First, on objective one, the study concluded that tax registration had a positive and significant effect on the level of tax collection among SMEs in Kikuyu Sub County, Kenya. Secondly, the study concluded that declaration of income had a positive and significant effect on the level of tax collection among SMEs in Kikuyu Sub County, Kenya. Prompt payment of tax due was also found to positively and significantly affect level of tax collection among SMEs in Kikuyu Sub County, Kenya. Finally, filing of returns also had a positive and significant effect on the level of tax collection among SMEs in Kikuyu Sub County, Kenya. Therefore, all the independent variables were significant predictors of the level of tax collection among SMEs in the devolved units in the country.

7. Recommendations

To enhance the level of tax collection among SMEs, the study recommends that Kenya Revenue Authority should encourage tax registration, declaration of income, prompt settlement of tax due and filing of returns among the SME category of businesses. In addition, the study recommends that Kenya Revenue Authority should collaborate closely with the county governments in order to ensure that all legal businesses operating in their jurisdictions are registered for taxation purposes. To further enhance tax compliance among the SMEs, Kenya Revenue Authority should initiate programs on educating business owners and/or managers on tax compliance. The education sessions could also serve as forums for KRA to address any issues that may be affecting the businesses with regard to tax compliance.

References

[1] Abeiku, T. (2014). *Challenges of revenue collection in Ghana*. Accra: Ogun Publishers.

[2] Abiola, J., & Asiweh, M. (2012). Impact of Tax Administration on Government Revenue in a Developing Economy – A Case Study of Nigeria. *International Journal of Business and Social Science*, *3*(8), 99-113.

[3] Afuberoh, D. (2014). The Impact of Taxation on Revenue Generation in Nigeria: A Study of Federal Capital Territory and Selected States. *International Journal of Public Administration and Management Research (IJPAMR), 2*(2), 22-47.

[4] Amin, A., Nadeem, M., Parveen, S., Kamran, A., & Anwar, S. (2014). Factors Affecting Tax Collection in Pakistan: An Empirical Investigation. *Journal of Finance and Economics*, *2*(5), 149-155.

[5] Anderson, J.E. (2013). Revenue collection performance in Leiden, Netherlands. *Public Finance Review*, 10(2), 45-62.

[6] Brinsley, P. (2014). Investigating government revenue collection performance: A case of county governments

in USA. *International Journal of Business and Management Review*, *5*(2), 64-71.

[7] Dajana, C. (2015). Tax literacy as an instrument of combating and overcoming tax system complexity, low tax morale and tax non-compliance. *The Macrotheme Review*, *4*(3), 156-167.

[8] Demilson, A. (2015). Determinants of revenue collection in Brazil. *Journal of Commerce and Management*, 4(2), 44-52.

[9] Elmi, M.A. (2015). Relationship between tax compliance barriers and Government's revenue generation at Gobonimo Market in Somaliland. *International Journal of Business Management and Economic Research*, *6*(6), 380-399.

[10] Elyas, M. (2016). The effect of revenue collection on the performance of local authorities in Ethiopia: A case of Merito. *International Journal of Business Management and Economic Research*, *10*(2), 69-77.

[11] Kamil, I. (2016). The effect of taxpayer awareness and knowledge on revenue collection in Pakistan. *Research Journal of Finance and Accounting*, *6*(3), 64-81.

[12] Kimario, P. (2014). *Challenges faced by local government authorities (LGAS) in implementing strategies to enhance revenues: Case of Dar es Salaam municipal councils*. Unpublished MBA Thesis, Open University of Tanzania.

[13] Maiga, S. (2015). The Impact of Tax Collection in Achieving Revenue Targets: The Directorate General of Taxes of Mali Case Study. *Theoretical Economics Letters*, *5*(1), 403-409.

[14] Mburugu, P. (2016). Determinants influencing revenue collection performance of Kenya Revenue Authority. *The Strategic Journal of Business & Change Management*, 3(1), 284-298.

[15] Mugenda, O. & Mugenda, A. (2009). *Research methods quantitative and qualitative approaches*. Nairobi: Acts Press.

[16] Muthama, J. (2013). *The effects of revenue system modernization on Revenue collection at Kenya Revenue Authority*. Unpublished MSc. in Finance, University of Nairobi.

[17] Ndekwa, A.G. (2014). Factors for Improving Tax Compliance Among Small and Medium Enterprises in Tanzania. *The International Journal of Business & Management*, *2*(10), 285-290.

[18] Nsana, J.B. (2015). *Analysis of government revenue collection and expenditure in relation to service delivery: A case of Tabora District Council*. Unpublished MSc. in Accounting and Finance Thesis, Mzumbe University.

[19] Oladipupo, A.O. (2016). Tax Knowledge, Penalties and Tax Compliance in Small and Medium Scale Enterprises in Nigeria. *iBusiness*, *8*(2), 1-9.

[20] Onoja, L.M. (2015). Effects of tax audit on revenue generation: Federal Inland Revenue Service, Abuja Experience. *Journal of Good Governance and Sustainable Development in Africa (JGGSDA)*, *2*(4), 67-80.

[21] Redae, B. (2016). Taxpayers' Knowledge and Tax Compliance Behavior in Ethiopia: A Study of Tigray State. *International Journal of Management and Commerce Innovations*, *3*(2), 1090-1102.

[22] Savitri, E. (2016). The effect of tax penalties on revenue generation in Malaysia. *Procedia - Social and Behavioral Sciences, 22*(4), 510 – 537.

[23] Simiyu, D. (2013). *Challenges affecting collection of turnover tax in Nairobi County – Kenya*. Unpublished MBA Thesis, Kenyatta University

[24] Umar, M., Derashid, C., & Ibrahim, I. (2017). Challenges of tax revenue generation in developing countries: Adopting the carrot and stick approach. *IOSR Journal of Humanities and Social Science*, *1*(1), 30-34.