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ABSTRACT

Effective corporate tax rate remain a subject of interest to firms, policy makers and researchers. It measures real level of tax burden imposed by national tax system at firm level. The main problem is how to reduce it at firm level. To address this, government across the world implement various investment incentive framework aimed at lowering effective corporate tax rate. The intention of low effective corporate tax rate is to influence investments, facilitate capital formation, increase productivity and grow firms. However, effective corporate tax rate in Kenya is still a problem averaging 31.3 percent for the last 10 years and has not been declining towards zero as recommended by the World Bank. Such high effective corporate tax rate militates against desired competitive corporate environment for the manufacturing sector. The manufacturing sector in Kenya has deteriorated to 7.4 percent contribution to gross domestic product which is less than 15 percent as envisaged in Kenya Vision 2030. This undesirable phenomenon therefore prompted the design of this study. The objective of the study was to determine the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The theories underpinning this study were optimal corporate taxation, political power and neoclassical investment. The study adopted positivist philosophy and longitudinal research design. The target population was 1,092 firms registered with Kenya Association of Manufacturers. Stratified random sample of 278 firms provided secondary data for the period 2010 to 2020. Descriptive and inferential statistics were generated using panel data regression analysis. The intervening model was analysed at significance level of 5 percent. The findings established that corporate performance had intervening effect on the relationship between investment incentives and effective corporate tax rate. It was recommended that both the National Treasury and manufacturing firms should have a robust financial framework for monitoring and evaluation of how effective corporate tax rate responds to investment incentives and corporate performance. The study added to finance knowledge that fiscal policy affects corporate operations.

Keywords: Corporate Performance; Investment Incentives and Effective Corporate Tax Rate

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INTRODUCTION

According to Dwenger and Walch (2014), Effective Corporate Tax Rate (ECTR) affect expansion of business ventures and overall economic growth. ECTR is the actual corporate tax paid as a percentage of pretax corporate profit. It is the financial barometer that measures size of corporate tax burden imposed by tax system on firms. Devereux and Fuest (2015) observed that, economic globalisation and growing importance of multinationalisation of firms have far reaching consequences on ECTR analysis and entire national fiscal policy. It was observed that, average corporate tax rate in European Union (EU) was on declining trend from 35 percent in 1995 to 23 percent in 2015. Therefore, reducing tax rate on corporate income is a problem that EU has continued to address over the last three decades.

High ECTR problem forces firms to circumvent fiscal policy through tax avoidance mechanisms. These mechanisms include round-tripping where domestic investors disguise as wholly controlled foreign corporation; double dipping where firms incorporate a new subsidiary so as to benefit from existing incentives; transfer pricing where goods and services are exchanged above arms-length price among subsidiary firms and companies recognize income in low tax countries while they account for expenditures in high tax jurisdictions; and fly-by-night operations where investors take advantage of policy incentives with hidden intention of making profits and then disappearing to another country that offers similar investment incentives. These schematic tax avoidances are detrimental to the economy since they are as bad as outsourcing economic activity, lead to loss of domestic investment, slows down economic growth, increase unemployment and erode corporate tax base. High ECTR puts the economy at competitive disadvantage that is likely to worsen when other countries embrace a reduced ECTR strategy (Frank & Angaye, 2020; & Alstadsaeter, Johannese & Zueman, 2017).

According to Congressional Budget Office (2017) the problem of high ECTR still exist across countries. It was reported that, the G7 countries had an average corporate tax rate of 27.2 percent; OECD member countries had a mean of 24.18 percent; and BRICS countries had an average of about 27.34 percent. The average ECTR for the G20 countries is 10.5 percent with lowest of negative 23.5 percent for Italy. According to Congressional Budget Office (2017), the negative ECR in Italy was occasioned by introduction of fiscal measures such as participation-exemption regime on intergroup capital gains; optional consolidation of tax declaration for a group of companies including foreign subsidiaries; use of tax allowance for equity (ACE) and tax refunds which reduced ECTR to a greater extent.

Investment incentives are fiscal policy instruments that are used by government to attract and retain business investment (UNCTAD, 2015). They take form of profit based, capital investment, custom duty related, value addition based, financial incentive among others. It was indicated that profit-based incentive can be evaluated using tax holiday, reduced corporate tax rate and loss carryovers. Capital investment incentive is a capital deduction that government allows firms to reduce corporate taxable income. The constructs of capital investment incentive include investment deduction, wear and tear; industrial undertakings; intellectual property rights; research and development; and computer-software. The essence of capital investment incentive is to encourage firms to increase capital expenditure and attract investments that otherwise would go to other countries.

According to Amendola *et al* (2018) fiscal incentives affect growth, performance and productivity of firms. Performance was described as the assessment of firm survival and development capability which is expressed in monetary metrics. The financial indicators for measuring performance were liquidity ratio; ratio of expenses to total assets; ratio of gross financial expenses to sales; return on

assets; equity ratio; ratio of current assets to total assets; and ratio of sales to current assets. Delgado, Rodríguez and Arias (2018) pointed out that there is non-linear relationship between firm size and ECTR in Germany. This phenomenon of non-linearity requires further analysis to understand the positive and negative points within a given distribution of firms.

Were (2016) argued that, manufacturing sector in Kenya is growing at slower rate than that of Ethiopia, Rwanda, Tanzania and Uganda. It was argued that, if this trend continues then other East Africa Countries will start to dominate manufacturing in the region. It was observed that Uganda and Tanzania are unwaveringly putting in place mechanism to make them preferred investment destinations in the region. Unfortunately it appears that Kenya seem not to be reverberating this stimulating impetus. One way of understanding this differential between countries is by researching on the corporate tax burden which is captured by ECTR.

According to Kenya Economic Surveys (2018 & 2019) The percentage contribution of manufacturing sector to GDP for the years 2014, 2015, 2016, 2017, 2018 and 2019 was 10 percent, 9.4 percent, 9.3 percent, 8.1 percent, 7.8 percent and 7.5 percent respectively. Similar situation was analysed by World Bank (2019). This declining state of affairs has to be addressed since manufacturing sector has a prominent role to play in achieving targets as set in Kenya Vision 2030 and medium term plans. The sector has been identified as the engine to create employment, generate wealth and contribute 15 percent of GDP. According to KAM (2018), investment into the manufacturing sector has slowed down over the last ten years. It is stated that, Kenya's challenges in attracting more investments include poor government incentives.

Statement of the Problem

Extant empirical literature shows that effective corporate tax rate is an area that is under researched (Congressional Budget Office, 2018; World Bank, 2018; Delgado *et al*, 2018; OECD, 2018;

& Vintlla *et al*, 2017). In addition, most studies on ECTR are in developed economies and limited in number due to lack of adequate data. Purina (2017) examined both internal and external factors as independent variables that affect effective corporate tax rate in Czech and Russian. The study conceptualised internal variables as intervening variable. Bánociová and Tahlová (2020) evaluated direct effect of loss amortization on effective tax rate in Slovakia. The study conceptualised loss carryover as a construct of profit based incentive as independent variable. Sunarto, Widjaja and Oktaviani (2021) studied mediating effect of performance on the relationship between corporate governance and effective corporate tax rate for quoted banks in Indonesia. The current study was to determine the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in a developing economy.

In Africa there are limited studies on determinants of effective corporate tax rate (Abramovsky *et al*, 2018; Adams & Balogun, 2020). Lakuma (2019) using descriptive analysis studied effect of investment incentives on ECTR in Uganda. The study has improved on by using both descriptive and inferential analysis. Calitz, Muwanga-Zake, Sithole and Steyn (2020) focused on effect of depreciation allowance and effective tax rate using anonymized macro data in South African. The study improved on this by using capital allowance as an indicator of capital investment incentive to estimate its effect using micro (firm level) panel data. Michael (2020) examined moderating effect of profitability on the relationship between ownership structure and tax avoidance in Nigeria but the current study focused on the intervening effect of corporate performance on the relationship between investment incentives and ECTR.

Besides conflicting findings and limited studies the current study sought to improve on the methodical gaps. For instance Ohrn (2018) used difference-in-difference analysis to show relationship between

capital deduction and fiscal policy. The study has used panel regression to estimate effect of capital deductions on effective corporate tax rate. Harahap, Sinaga, Manurung and Manalana (2018) used structural simultaneous modelling to estimate effect of macroeconomic environment on effective tax rate in Indonesia. Hanappi (2018) using predetermined assets parameters simulated ECTR for 34 OECD and non-OECD Countries. The study has used panel regression analysis to investigate ECTR in developing economy.

World Bank (2020) study indicates that high tax rate are associated with few formal business, low investment and reduces likelihood of establishing a subsidiary in an economy. This kind of scenario militates against Government of Kenya objective to increase investments; grow the economy; create new jobs; alleviate poverty; actively diversify the economy; foster the role of manufacturing sector in backward-forward business linkages; and transform Kenya into a newly industrialised middle income economy within the context of Vision 2030 (Government of Kenya, 2018).

In Kenya, studies on investment incentives and ECTR are limited (Osebe *et al*, 2019; Kuria, 2017 & 2018; and Kariuki, 2017). For example Osebe *et al* (2019) measured effect of corporate governance on ECTR and highlighted the need for more empirical evidence to understand variables that affect ECTR. Kuria (2017) examined effect of corporate income, VAT, excise duty, custom duty and capital allowance incentives on corporate performance for EPZ firms while the study has conceptualised intervening effect on corporate performance between investment incentives and ECTR. These limitations forms the background against which the study was formulated to determine effect of investment incentives on effective corporate tax rate for manufacturing firms in Kenya.

Study objective and Hypothesis

The specific objective of this study was to determine the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing

firms in Kenya. The null hypothesis (**Ho**) was that corporate performance does not have a significant intervening effect on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya.

LITERATURE REVIEW

Theoretical Literature

This study was anchored on optimal corporate taxation, neoclassical investment and political power theories. The main theory underpinning the dependent variable as the problem variable was optimal corporate taxation.

Optimal Corporate Taxation Theory

According to Mirrlees (1971), optimal corporate tax theory is based on the principle of utilitarianism. This principle posit that the marginal corporate tax rate should not increase financial burden of tax payers. The optimal corporate tax theory embodies an assumption that imposition of a given tax rate should create incentives, efficiency and information sharing to maximize social welfare without increasing tax liability. It is argued that one opportunity to lessen negative effect of corporate taxation on investments and increase private investments is by government providing investment incentives. Therefore, firms utilise investment incentives so as to diminish tax liability. The theory was used in the study to explore the supposition that effective corporate tax rate is dependent on investment incentives. The theoretical principles surrounding corporate taxation are used to expound on the analysis that nonzero ECTR is in itself a problem adequate for research investigation.

According to Koehne (2017), there is no widely accepted argument that corporate taxation has an advantage over taxation at the personal level. However, any tax rate that increases corporate tax burden results into productive inefficiency. Therefore, it is hard to overlook global pressure towards lowering effective corporate tax rate. Due to this growing pressure there is tax competition across countries and therefore public policy strategists need to take this trend into account. The interest of

optimal corporate taxation is to eliminate deadweight loss in the economy so as to increase economic efficiency. The deadweight loss occurs when firms make less investment decisions than if there was no tax burden, which reduces well-being.

The Neoclassical investment Theory

The Neoclassical investment theory was pioneered by Jorgenson in 1963. The theory states that a combination of sound fiscal policy and investment incentives promote private investment. This was premised on the fact that, investment incentives create certain tax deductions which lower effective corporate tax rate at firm level. It is argued that, expansionary fiscal policy raises level of income and increases expected output of firms and stimulate investment. Therefore, firms favour investment incentives since they lead to reduction in effective corporation tax rate and increase corporate performance. This argument was applied in the study to estimate intervening effect of corporate performance on ECTR for manufacturing firms in Kenya.

Parys (2012) in expounding on neoclassical investment theory argued that firms simultaneously take into account both tax related factors and non-tax factors when making investment decisions. Various economies reduce corporate tax rate since firms are mobile and are free to locate in jurisdictions with lowest tax burden. The argument is that it is difficult to ignore investment incentives when investigating corporate taxation in developing economies. Federici, Parisi and Elliott (2015) points out that the nexus between taxation and investment have shown that there is need to move from macro-modeling to micro-analysis. The micro-analysis allows investigation on effect of taxation across firms with different characteristics. Further, the association between taxation and investment incentives is a global concern that should be examined from both government and firm perspective as they make decisions.

Munongo, Akanbi and Robinson (2017) stated that according to neoclassical investment theory, firms continue accruing capital provided the benefits

outweigh costs. The theory proposes that investment inducements boost development and investments. This is premised on the argument that investment incentives reduce ECTR. It was observed that the use of incentives to attract FDI improves benefit of corporates in a jurisdiction that have adopted a given set of investment incentives but have external cost implications for investors in other competing economies that do not have similar incentives.

Political Power Theory

Siegfried (1972) postulated that as firm size increases effective corporate tax rate reduces. Political power is defined as peculiar ability of a firm to take advantage of fiscal policy incentives and tax optimization opportunities to lower effective corporate tax rate. Political power theory postulates that large firms possess substantial resources, have capacity to engage in tax planning, take advantage of fiscal policy and organise activities to optimize tax savings. Firms take advantage of investment incentives to lower effective corporate tax rate. This proposition suggests that there is a converse association between ECTR and firm size.

Hansson, Porter and Perry (2012) pointed out that investment decisions are sensitive to tax rate. As a consequence countries are lowering corporate tax rate in order to retain and attract investments. Similar position was espoused in effective tax literature (Devereux *et al*, 2015). The disparity among economies on the level of ECTR is substantial. It is argued that both economic and political factors influence the level of ECTR in an economy. Delgado *et al* (2018) pointed out that there is non-linear positive association between firm size and ECTR. This non-linearity effect is a phenomenon which requires investigation to determine the positive and negative points within any sample distribution. Moreover, corporate performance as measured by ROA influence ECTR. This position was used to inform application of corporate performance in the study as an intervening variable.

Poli (2019) reiterated that large firms organise activities to achieve maximum tax savings, have

resources to manage tax processes and engage in tax planning as postulated by political power theory. The exponents argue that globalisation of business enterprises confers tax advantage on firms. Firms with good corporate policies lobby for favourable tax policies, exploit opportunities in the taxation code and have good corporate tax strategy that help them reduce tax liability. Therefore, the study hypothesised that corporate performance has intervening effect on ECTR.

Empirical Literature

Carreras *et al* (2017) found that, medium sized firms face lowest ECTR compared to small firms in South Africa. The results showed non linearity relationship between profitability and ECTR. This current study improves on this empirical findings by determining intervening effect of corporate performance on the relationship between investment incentives and ECTR.

Abramovsky *et al* (2018) reviewed investment incentives for low and middle-income countries. The analysis showed that incentives such as tax holidays, reduced tax rate, loss carry overs are fiscal mechanisms used to attract footloose (unrestricted) investments that generate profits. The loss carry-forward schedule was used to reduce future taxable profits until the balance is zero, albeit subject to limited number of years. The study used case study to assess how investment incentives were applied in Ethiopia and Ghana. However, the review did not narrow down to any specific sector which this study was address by focusing on effect of investment incentives on effective corporate tax rate for manufacturing firms in Kenya.

Ghazanchyan, Klemm and Zhou (2018) reviewed cost-benefit of fiscal incentives in attracting capital and in supporting business diversification strategy in Cambodia. It was pointed out that custom relief reduce upto 50 percent of taxable profit realised from goods produced and exported. The study analysed tax incentive in Cambodia which is a different business environment from Kenya. Oluwole, Adekunle and Olusola (2020) established that an increase in custom incentive by one unit

increases return on asset by 0.44 units in Nigeria. These studies focused on effect of custom duty incentive on firm performance. The present study however focused on establishing the effect of custom duty incentive on ECTR.

Kuria (2018) revealed that custom duty incentive has significant effect on performance of EPZ firms in Kenya. The study used correlation research design. It was recommended that policy makers need to implement strategic investment incentives targeting specific industry so as to positively contribute to economic growth as envisaged in the Kenya Vision 2030. The study focused on effect of custom duty incentive on performance while this study was on effect of custom duty incentive on ECTR for manufacturing firms.

Vintilă *et al* (2018) showed that corporate performance is correlated with ECTR in Romania, Hungary, Poland, Bulgaria and Slovenia. The study was carried out in emblematical countries formerly of communist ideology which created empirical and contextual gaps for the study. These studies examined direct corporate performance on ECTR while the current study used of corporate performance as an intervening variable. It was also acknowledged that studies on ECTR are limited due to inadequate data and therefore this study has filled part of such empirical gaps and framework.

Dias and Reis (2018) studied the relationship between effective tax rate and nominal rate with firm characteristics as control variables. It was found that firm characteristics such as ROA control on the level of effective tax rate in 5 EU countries (Denmark, Slovenia, Finland, Luxembourg and UK). Effective tax rate is used to point out the tax volume of companies, evaluate tax planning efficacy and trace tax management practices. The study used firm characteristics as control variable while this study applied corporate performance as an intervening variable.

Lakuma (2019) examined effect of various incentives schemes on tax burden in Uganda. The descriptive analysis showed that tax holiday

effectively reduce tax rate to a single digit percent. The study did not use any inferential analysis to analyse the impact of investment incentives on effective corporate rate. This is a gap the study attempted to address. Undie, Akpan and Sezuo (2020) examined effect of tax incentives and tax planning on corporate performance (profitability) in Nigeria. The study used *ex-post facto* research design. The multiple regression results revealed that firms take advantage of tax holidays to reduce tax liability. The research focused on firms operating in free trade zones and used both taxpaying scheme and incentives as independent variables. The study had a different conceptualization and context, that investment incentives have direct effect on effective corporate tax rate while this study was to determine the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate

Hamzah, Hamid, Zawawi, Shamsuddin and Azali (2020) showed that foreign ownership structure moderated capital incentive and ECTR on performance of firms in Malaysia. The study used panel regression. Adams *et al* (2020) pointed out that corporate performance had positive significant influence on ECTR in Nigeria. Corporate performance was measured by ROA while ECTR was computed as income tax expense plus deferred tax expense divided by income before interest and tax. This study had a different conceptualisation whereby capital incentive is an independent variable, corporate performance is the intervening variable and ECTR is the dependent variable.

Michael (2020) examined the moderating effect of profitability on the relationship between ownership structure and tax avoidance in Nigeria. Tax avoidance was measured by effective tax rate while profitability was measured by ROA. The generalised least squares revealed that ROA had positive moderating effect on ECTR. However, in this study profitability and financial efficiency are constructs of

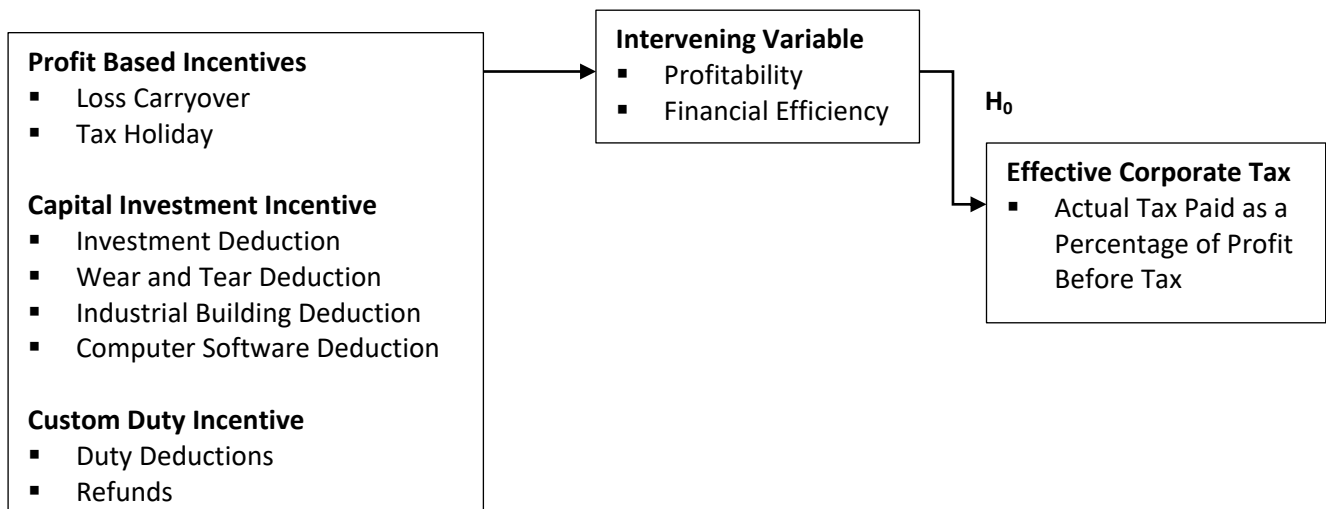
corporate performance as intervening variable on the relationship between investment incentives and ECTR for manufacturing firms. Sunarto, Widjaja and Oktaviani (2021) regression results showed that profitability had no mediating effect on the relationship between corporate governance and effective corporate tax rate in Indonesia. In the study it was hypothesised that corporate performance has moderating effect on the relationship between investment incentives and ECTR.

Haris and Seid (2021) pointed out that custom duty incentive allows eligible firms preferential rates and refund of duty paid on imported material used in production of export goods in Ethiopia. It was pointed out that, there are few studies that have examined the effect of custom duty on effective corporate tax rate. In addition, there are limited studies on effect of custom duty incentive on ECTR in Kenya which the study attempted to bridge such empirical gaps.

Nathania, Wijaya, Hutagalung and Simorangkir (2021) established that profitability had intervening effect on the relationship between firm size and ECTR. The study used structural equation model while this study used panel regression. The study conceptualised corporate performance has intervening effect on the relationship between investment incentives and ECTR for manufacturing firms in Kenya.

Conceptual Framework

According to Imenda (2014), conceptual framework shows how research problem is to BE explored and specific direction of relationship between and among variables. The study conceptualized that corporate performance was an intervening variable on the relationship between investment incentives and effective corporate tax rate as shown in figure 1 below.



Independent Variables

Dependent Variable

Figure 1: Conceptual Framework

In figure 1 H_0 shows the intervening variable as corporate performance whose indicators are profitability and financial efficiency. Michael (2020) showed that profitability has a significant positive moderating effect on the relationship between ownership structure and tax avoidance. This extant literature has therefore been used to develop the conceptual framework for this study.

METHODOLOGY

The study adopted positivism philosophy since its assumption was based on deductive approach, objective analysis, ethical grounding and quantitative methodology. The study also applied empirical methods and quantitative analysis. Based on this positivist epistemology the study adopted deductive approach.

The study had a sample of 278 firms selected at 5 percent error of margin from the sub-sectors. Stratified random sampling was used because the target population was heterogeneous (Singh & Masuku, 2014). The study therefore used proportionate stratified random sampling. This was to ensure that the sample was directly proportional to the entire population strata. The study therefore applied longitudinal research design. As elucidated by Cooper and Schindler (2014), longitudinal design was adopted since the study was to make observations over a period of time from sampled

firms to determine cause-effect associations between the variables after data analysis. The quantitative results test the hypotheses and achieve study objectives. The essence of longitudinal research was to improve on the validity of inferences achieved by using both cross-sectional approach and assessing the changes over time that may affect variables. The methodological aspect was to determine the number of measurement, time interval, meaningful sample size and configure measurement properties of the variables.

According to Cooper *et al* (2014), empirical model is a mathematical representation of a system construct to study a phenomenon. The study utilized panel data regression model so as to estimate the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate. The study applied the approach suggested by Baron and Kenny (1986) four stage model on mediation analysis. The intervening model was to test the strength and direction effect of predictor variables on dependent variable varies as a function of another variable. The intervening effect analysis involved conducting four panel regressions to determine the significance of coefficients at each of the stages.

Stage I: Conducted a panel regression of investment incentives and effective corporate tax rate as reflected in model 1. The intention of this analysis was to establish whether investment incentives were statistically significant predictors of effective corporate tax rate for manufacturing firms in Kenya.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_t \dots \dots \dots \text{Model 1}$$

Where

Y_{it} is the effective corporate tax rate for firm i at time t;

X_{1it} is the profit based incentive for firm i at time t;

X_{2it} is the level capital investment incentive for firm i at time;

X_{3it} is value of custom duty incentive for firm i at time t; and

μ_t is the error term across time period of analysis for firm i at time t.

Stage II: Conducted a panel regression of investment incentives and corporate performance as reflected in model 2.

$$C_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_t \dots \dots \dots \text{Model 2}$$

Where:

C_{it} is the corporate performance for firm i at time t;

X_{1it} is the profit based incentive for firm i at time t;

X_{2it} is the level capital investment incentive for firm i at time;

X_{3it} is value of custom duty incentive for firm i at time t; and

μ_t is the error term across time period of analysis for firm i at time t.

The aim at stage II was to establish whether investment incentives had statistical significant effect on corporate performance for manufacturing firms in Kenya. Corporate performance was determined by computing the geometric mean of profitability and financial efficiency. Profitability was computed as net profit before tax divided by total assets. Financial efficiency was calculated as gross profit divided by total assets.

Stage III: Conducted a panel regression of corporate performance and effective corporate tax rate as reflected in model 3 below.

$$Y_{it} = \beta_0 + \beta_1 C_{it} + \mu_t \dots \dots \dots \text{Model 3}$$

Where:

Y_{it} is the effective corporate tax rate for firm i at time t;

C_{it} is the corporate performance for firm i at time; and

μ_t is the error term across time period of analysis for firm i at time t.

The aim at stage III was to establish whether corporate performance had statistical significant effect corporate performance on effective corporate tax rate for manufacturing firms in Kenya.

Stage IV: Conducted a panel regression for investment incentives, corporate performance and effective corporate tax rate as reflected in model 4 below.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_t \dots \dots \dots \text{Model 4.}$$

Where:

Y_{it} is the effective corporate tax rate for firm i at time t;

X_{1it} is the profit based incentive for firm i at time t;

X_{2it} is the level capital investment incentive for firm i at time;

X_{3it} is value of custom duty incentive for firm i at time t;

C_{it} is the corporate performance for firm i at time; and

μ_t is the error term across time period of analysis for firm i at time t.

The aim of stage IV was determine whether investment incentives had statistical significant effect on effective corporate tax rate when regressed together with corporate performance as intervening variable. Stage 1 to 3 were used to ascertain the existence of zero order associations amongst the variables. The intervening effect was determined by comparing the relationship before and after adjusting for corporate performance. The intervening effect is said to exist when β_4 in model 4 is statistically significant.

The data collection covered the period 2010 to 2020. The study opted for secondary data which was collected using document review analysis. Data on investment incentives, corporate performance and effective corporate tax rate was collected from financial statements and relevant reports for the sampled firms. The collected data was summarized using data collection guide. The data was arranged as a panel so as to show both cross-sectional and time series characteristics.

The dependent variable was the effective corporate tax rate. The independent variables were investment incentives proxied by profit based, capital investment and custom duty. Corporate performance was intervening variable.

Data analysis involves reducing collected data to a manageable size, create summaries, examine patterns and apply statistical. Data collected was analysed using descriptive and inferential statistics.

Garg and Goyal (2018) point out that inferential statistics encompass procedures that help a

researcher to examine accuracy of results, test hypotheses, make decisions, draw conclusions and suggest recommendations that can provide solutions to the problem at hand. As indicated by Senthilnathan (2019), the study used inferential analysis to measure the extent to which variables are related, strength and direction of that relationship. Panel regression analysis was used to investigate the nature, direction and magnitude of relationships.

FINDINGS AND DISCUSSION

Descriptive Statistics

The descriptive statistics were used to express attributes of various variables in the study. They quantified and described the basic characteristics of the study variables. The descriptive statistics used measures of central tendencies, variability, and trend analysis. A summary descriptive statistics are shown in table 1 below.

Table 1: Summary of Descriptive Statistics

Variable	Unit of Measure	N	Mean	Std Deviation	MinimumValue	MaximumValue
Effective Corporate Tax Rate	%	2484	21.89	8.24	9.88	37.36
Profit based incentive	Kshs. M	2484	874.58	489.67	542.510	2,185.987
Capital investment incentive	Kshs. M	2484	1,894.1	761.58	656.314	2,989.007
Custom duty incentive	Kshs. M	2484	5,074.4	1,098.22	2,798.736	6,382.835
Corporate performance	%	2484	20.00	7.00	13.61	35.23

Source: Research Data (2023)

From table 1, the number of observations were 2,484 from 278 firms for the period 2010 to 2020. The mean for effective corporate tax rate for manufacturing firms was estimated at 21.89 percentage points with a standard deviation of 8.24 over the study period. The minimum effective corporate tax rate recorded was 9.9 percent while the maximum was 37.4 percent. As regard to the profit based incentive, the mean value was 874.6 with minimum recorded value of 542.5 while the

maximum was 2,186.0. For capital investment incentive the mean was estimated at 1,894.1. The minimum capital investment incentive was 656.3 with maximum value of 2889.2. The mean for custom duty incentive was 5,074.4. The minimum value of custom duty incentive recorded was 2,798.9 while the maximum was 6382.4. The trend for the study variables were as shown in the following figures.

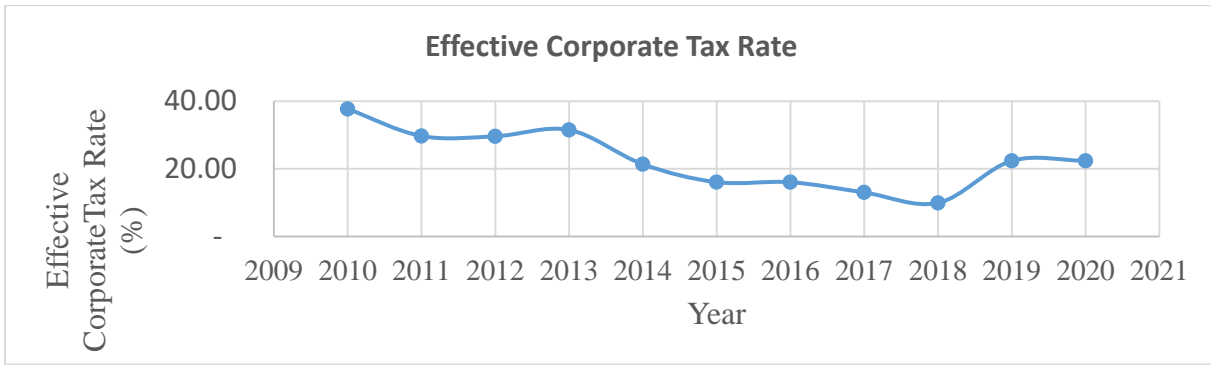


Figure 2: Effective Corporate Tax Rate

Source: Research Data (2023)

The results shows that effective corporate tax rate depicted volatility characteristics. The effective corporate tax volatility is an indication of unpredictable tax system and it impacts negatively

on growth of firms. This is a common financial problem in most developing countries in Africa. It can also be deduced that firms seem not to have mechanism of smoothening such volatility.



Figure 3: Trend in Profit based incentive

Source: Research Data (2023)

The profit based incentive was lowest in 2014 at 375.5 and highest in 2019 at 2186.0. However, it has depressed to 1159.27 in 2020. The upward trend

shows that firms have been utilizing the available profit based instrument as spelt out in fiscal policy and tax code.

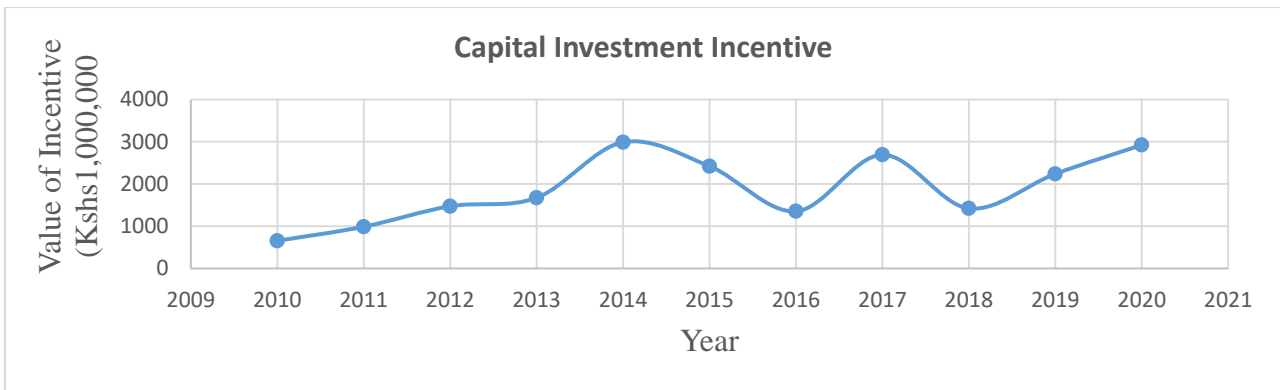


Figure 4: Trend in capital investment incentive

Source: Research Data (2023)

The upward trend shows that firms have been utilizing the available capital investment incentive as spelt out in fiscal policy and tax code instrument.

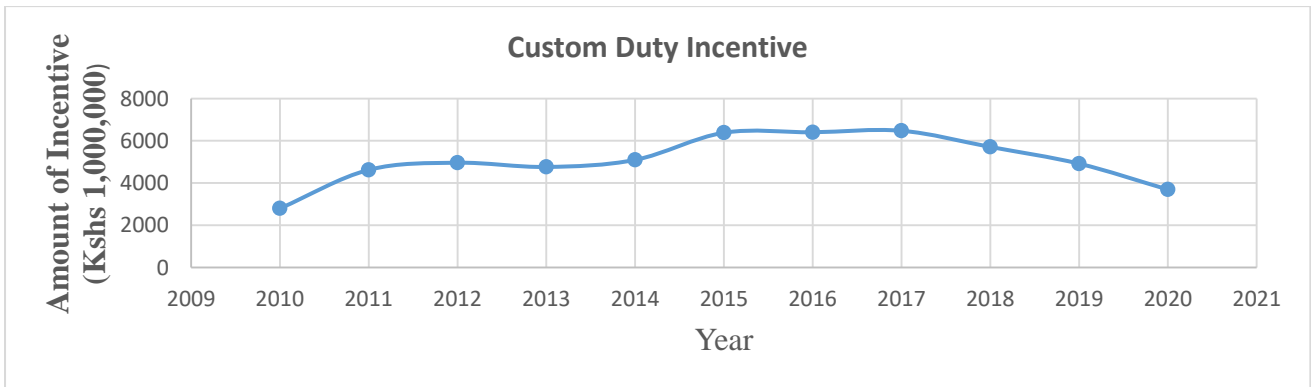


Figure 5: Trend in custom duty incentive

Source: Research Data (2023)

The results showed that over the period the custom duty incentive increased between the year 2010 and 2014. The upward trend shows that firms have been utilizing the available custom to lower ECTR.

Inferential Statistics

This section presents results of diagnostic tests and panel regression of the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya.

The inferential statistics were analysed at 5 percent level of significance.

Diagnostic Tests Results

The diagnostic test were carried out at 5 percent level of significance he results of diagnostic test are as highlighted below

Multicollinearity Test

The study applied variance inflation factor (VIF). A VIF of greater than 5 was cutting point to indicate multicollinearity was a problem. The results for multicollinearity test are shown in table 2 below.

Table 2: Multicollinearity Test Result

Variable	VIF	1/VIF
Profit based incentive	1.44	0.696
Capital investment incentive	1.40	0.714
Custom duty incentive	1.10	0.905
Mean	1.31	0.763

Source: Research Data (2023)

From table 2 the VIF for all the variables was less than 5. This indicated that there was no multicollinearity as asserted by Shrestha, (2020). This implies that the error term did not have direct correlation with variables in the study.

Normality Test

The results for Shapiro-Wilk test for normality test are shown in table 5 below.

Table 3: Normality Test Results

Variable	Observations	W	V	Z	P-Value
Effective Corporate Tax Rate	2484	0.9993	0.950	-0.132	0.5526
Profit based incentive	2484	0.9990	1.415	0.889	0.1869
Capital investment incentive	2484	0.9987	1.493	1.027	0.1521
Custom duty incentive	2484	0.9987	1.776	1.472	0.0705
Corporate performance	2484	0.9987	1.856	1.585	0.0565

Source: Research Data (2023)

From table 3 the p-value for all the effective corporate tax rate, profit based incentive, capital investment incentive, custom duty incentive and corporate performance was 0.5526, 0.1869, 0.1521, 0.0705 and 0.0565 respectively. The p-value for the study variables were greater than 0.05. Since, these p-values were greater than 0.05 the study failed to reject the null hypothesis that the error term was normally distributed. It was therefore concluded

that the error term had normal distribution the dataset was fit for panel regression analysis.

Homoscedasticity Test

The study tested for homoscedasticity using Breusch- Pagan test for the intervening model. The results of homoscedasticity test are shown in table 4 below.

Table 4 : Test for Homoscedasticity

Model	Breusch-Pagan test		
	Chi2(1)	Degree of Freedom	Prob > chi2
Intervening effect model	3.63	1	0.568

Source: Research Data (2023)

From table 4 above the chi-square of Breusch-Pagan test results for intervening effect model show X^2 of 3.63 with a p-value of 0.568 which is greater than 0.05. Similarly, the study failed to reject the null hypothesis that the error term for intervening effect model had constant variance across observations. Thus, we conclude that homoscedasticity is present in the intervening effect model.

Stationarity Test

Stationarity test was done to ensure that time series data has same mean, variance and covariance irrespective of time factor. Stationarity exist when variables contain unit root. The null hypothesis was that the study variable had unit root against the

alternative hypothesis that there were we no unit root. The null hypothesis was to be accepted if the p-value was greater than 0.05 The augmented Dickey- Fuller results for stationarity test showed p-values for the study variables being greater than 0.05. Consequently, the study failed to reject the null hypothesis that all the data panels had unit root of zero value (stationarity). It was therefore concluded that the datasets were stationary.

Test for Autocorrelation

The Durbin-Watson test was used to check for autocorrelation. The results for autocorrelation are shown in table 5 below.

Table 5: Autocorrelation Test

Durbin-Watson Test		
Model	Chi2(1)	Prob > chi2
Intervening effect model	0.28	0.594

Source: Research Data (2023)

From table 5, the results for intervening effect model show X^2 of 0.28 with a p-value of 0.594. Since 0.594 was greater than 0.05, we failed to reject the null hypothesis that the error term in the intervening effect model had a relation to the error value of the previous year observations. Thus, we conclude that there was no autocorrelation in the intervening effect model. The absence of autocorrelation therefore implied panel regression

model was able to generate coefficients that are efficiency in estimating the outcomes.

Model Specification Test

The study tested for model specification on whether to apply fixed effect (FE) or random effect (RE) using Hausman test. The result for Hausman tests are shown table 5 below.

Table 5: Hausman Test for Intervening Effect Model

Variable	Coefficients		Difference(b-B)	Sqrt(diag(V_b-V_B)SE
	FE	RE(B)		
Profit Based Incentive	-0.5048	-0.5518	0.0470	0.0049
Capital Investment Incentive	-0.1388	-0.1388	0.0000	0.0034
Custom Duty Incentive	-0.5080	-0.4855	-0.0225	0.0046
Corporate Performance	-0.0779	-0.0509	-0.0270	0.0032

b = consistent under Ho and Ha obtained from xtreg

B = inconsistent under Ha and efficient under Ho obtained from xtreg

Test: Ho: Difference in coefficient not consistent.

Chi2 (3) = (b-B) (V_b-V_B) (b-B) =223.83 Prob> Chi2 (3)= 0.0000

Source: Research Data (2023)

From table 5 the p-value for chi-square was 0.000. This was less than 0.05 and we failed to reject the null hypothesis that RE preferred model. Therefore, could not apply FE in the intervening effect panel regression but RE was used. This because the test results shows that difference in coefficient under RE and FE are consistent.

Panel Regression Results on Investment Incentives, Corporate Performance and Effective Corporate Tax Rate

The study findings are based on study objective. The dependent variable was effective corporate tax rate. Investment incentives were the independent variables and corporate performance intervening variable. The results show the intervening effect of

corporate performance on the relationship between investment incentives and effective corporate tax rate.

The study was to establish the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. To evaluate this relationship the study applied a four stage model as suggested by Baron and Kenny (1986) on mediation analysis. The analysis entailed running four separate equations as reflected model I to 4 of the empirical model to ascertain the existence of intervening effect. The results of four steps are summarised in table 6 below.

Table 6: Panel Regressions for Intervening Effect of Corporate Performance

Variable	Stage I: Model 1				Stage II: Model 2				Stage III: Model 3				Stage IV: Model .4			
	Coef	Std Error	t	P>t	Coef	Std Error	t	P>t	Coef	Std Error	t	P>t	Coef	Std Error	t	P>t
Profit based Incentive	-0.558	0.014	-38.77	0.000	0.641	0.018	36.31	0.000					-0.505	0.018	-28.61	0.000
Capital investment Incentive	-0.142	0.016	-8.61	0.000	0.040	0.020	1.97	0.049					-0.139	0.016	-8.45	0.000
Custom duty Incentive	-0.489	0.017	-28.48	0.000	-0.251	0.021	-11.83	0.000					-0.508	0.018	-28.9	0.000
Corporate Performance									-0.309	0.019	-16.49	0.000	-0.078	0.016	-4.80	0.000
Constant	-0.028	0.013	-2.10	0.036	0.001	0.016	0.06	0.956	-0.036	0.018	-1.89	0.000	-0.028	0.013	-2.10	0.035
N	2484				2484				2484				2484			
F-statistics	F(14,2469)=265.07				F(14,2469)=104.71				F(12,2471)=45.89				F(15,2468)=251.14			
Prob > F	0.000				0.000				0.000				0.000			
R-squared	0.600				0.373				0.182				0.604			
Adj R-squared	0.598				0.369				0.178				0.601			
Model	$Y_{it} = -0.028 - 0.558 X_{1it} - 0.142 X_{2it} - 0.489 X_{3it}$ (Model 1)				$C_{it} = 0.001 + 0.641 X_{1it} + 0.040 X_{2it} - 0.251 X_{3it}$ (Model .2)				$Y_{it} = -0.036 - 0.309 C_{1it}$ (Model 3)				$Y_{it} = -0.028 - 0.505 X_{1it} - 0.139 X_{2it} - 0.508 X_{3it} - 0.078 C_{it}$ (Model 4)			
Conclusion	The relationship can be subjected to intervening effect analysis				Corporate performance can be used for intervening effect analysis				There is partial intervening effect				There is full intervening effect			

Source: Research Data (2023)

From table 6 above, it is evident from first regression model 1 that investment incentives had statistical significant effect on effective corporate tax rate for manufacturing firms in Kenya. The result of F –statistic (14, 2469) of 265.07 had p-statistic of 0.0000. The p-value of 0.000 implies that model 1 was fit in estimating relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The p-value for profit based incentive, capital investment incentive and custom duty are 0.000, 0.049 and 0.000 respectively. This implies that coefficients of the model 1 had statistical significant effect on effective corporate tax rate for manufacturing firms in Kenya. In light of Mehmetoglu (2018) intervening effect can be analysed since there is existence of

significant relationship between investment incentives and effective corporate tax rate for manufacturing in Kenya.

At the second stage regression the results had F –statistic (14, 2469) of 104.71 with p-value of 0.000. A p-value of less than 0.05 implied that model 2 is fit in estimating the relationship between investment incentives and corporate performance. The results showed a coefficient of 0.6414 for profit based incentive with a corresponding p-value of 0.0000; a coefficient of 0.0401 for capital investment incentive with a p-value of 0.049: and a coefficient of -0.251 for custom duty incentive with a p-value of 0.000. The p-value for this model were less than 0.05. This implies that investment incentives had statistical significant effect on corporate performance for

manufacturing firms in Kenya. The findings therefore fulfil the condition that for intervening effect to exist the investment incentives should be a significant predictor variables of corporate performance.

At the third stage the results from table 9 above had F –statistic (12, 2471) of 45.89. The p-value was 0.000 which was also less than 0.005. This implied that model 3 was fit to estimate the functional relationship between corporate performance and effective corporate tax rate for manufacturing firm in Kenya. The results had generated adjusted R-square of 0.1783. This suggests that 17.84 percentage variations in effective corporate tax rate in the study period are due to changes in corporate performance. Therefore, the panel regression analysis indicate corporate performance as intervening variable had statistical significant effect in predicting effective corporate tax rate for manufacturing firms in Kenya.

At the fourth stage, the panel regression generated F –statistic (14, 2468) of 251.14 with a p-value of 0.0000. This results implied that model 4 was fit in estimating the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The findings of the intervening effect model showed that profit based incentive had a coefficient of -0.505 with a p-value of 0.000; capital investment incentive had a coefficient of -0.139 with a p-value of 0.000 and custom duty incentive had a coefficient of -0.508 with a p-value of 0.0000. The implication is that both investment incentives and corporate performance had statistical significant effect on effective corporate tax rate for manufacturing firms in Kenya.

Juxtaposition of the results showed that direct effect of profit based incentive improved from - 0.558 in model 1 to - 0.505 in model 4. Similarly, direct effect of capital investment incentive improved from 0.142 to 0.139 while the direct effect of custom duty incentive reduced from 0.489 in model to 0.508 in model 4. In the presence of corporate performance, custom duty incentive had a more significant effect on effective corporate tax rate for manufacturing firms in Kenya.

From table 9, the adjusted R-square changed from 0.598 in the model without intervening variable to 0.601 for the model with intervening variable. From this comparative results, it meant that the explained variability in effective corporate tax rate for manufacturing firms in Kenya was improved by corporate performance. The inclusion of corporate performance gave insight to the connective relation between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. This suggests that 60.10 percent of the variations in effective corporate tax rate in the study period can be attributed to changes in investment incentives when is regressed together with corporate performance. However, there are 39.9 percentage variations in effective corporate tax rate that were attributable to other variable outside this model. There could be need for further research to understand these other variables.

To test for significance of the change due to intervention, indirect effect regression coefficients were computed as suggested by Kenny & Judd (2014). The indirect effect was obtained by getting product of stage II regression and Stage III regression. The computations are shown in table 7 below.

Table 7: Indirect Intervening Effect of Corporate Performance

Variable	Stage II Coefficient	Stage III Coefficient	Indirect Intervening Effect
Profit based incentive	0.641	-	0.641*-0.309= -0.198
Capital investment incentive	0.040	-	0.040*-0.309= -0.012
Custom duty incentive	-0.251	-	-0.251*-0.309= 0.078
Corporate Performance	-	-0.078	
Constant	-0.028	-0.023	

Source : Research Data

From table 7 above the results indicates that the indirect effect of profit based incentive, capital investment incentive and custom duty incentive were -0.198, -0.012 and 0.078. This implies that increasing corporate performance by one unit led to a reduction in effect of profit based incentive on effective corporate tax rate by 19.8 percent. Similarly, increasing corporate performance by one unit led reduced influence of capital investment incentive on effective corporate tax rate by 1.2 percent. To the contrary, increasing corporate performance by one unit increased effect of custom duty incentive on effective corporate tax rate by 7.8 percent.

The overall findings supports political power theory by Siegfried (1972). From this theory it is postulated that high firm performance reduces effective corporate tax rate. This is because high performance enables firms to take advantage of fiscal policy incentives and are able to plan operational capacity to lower effective corporate tax rate. Political power theory postulates that firms organise substantial resources, utilise human capacity to optimise tax planning and plan operational activities to maximise tax savings and use corporate power to influence public policy.

The results of stage III three agree with Carreras *et al* (2017) who found similar results but revealed non linearity relationship between profitably and ECTR. Also Vintilă *et al* (2018) showed that corporate performance is correlated with ECTR in Slovenia, Hungary, Bulgaria, Poland and Romania. These findings therefore cumulatively add to limited and inadequate data to support existing empirical gaps and framework on effective corporate tax rate.

The finding could be likened to Dias *t al* (2018) who found out that ROA control on the level of effective tax rate in five (5) EU countries (Denmark, Slovenia, Finland, Luxembourg and UK). The results also support Michael (2020) who examined the

moderating effect of profitability on the relationship between ownership structure and tax avoidance in Nigeria. However, the study does not supports Sunarto *et al* (2021) whose regression results showed that profitability had no mediating effect on the relationship between corporate governance and effective corporate tax rate in Indonesia.

In addition, the study supports the findings of Nathania *et al* (2021) that profitability had intervening effect on the relationship between firm size and ECTR. It therefore instructive for manufacturing firms to strategise on how to improve corporate performance together with opitimising benefits of investment incentives to reduce effective corporate tax rate. The findings showed that the joint influence of investment incentives and corporate performance was higher than the individual results on effective corporate tax rate for manufacturing firms in Kenya. It is apparent that corporate performance is a critical decision variable for a desired level of effective corporate tax rate. This is because as manufacturing firms plan to benefits from fiscal policy through investment incentives, corporate performance remain an important element of decision framework that facilitate maximizing returns and help in strategizing for competitive environment. The thrust of the finding is that fiscal policy must interact favourably with corporate performance strategy for any desired level of effective corporate tax rate.

Hypothesis Testing

The null hypothesis (H₀) was framed that corporate performance did not have a significant intervening effect on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The study was to fail to reject the null hypothesis when the p-value of the model is greater than 0.05. The analysis of variance for the model 4 are shown in table 8 below.

Table 8: Test of Hypothesis of H0

Source	SS	Df	MS	Number of obs	2484
Model	0.6537	150.0436		F(15, 2468)	251.14
Residual	0.4282	24680.0002		Prob > F	0.0000
Total	1.0819	24830.0004		R-squared	0.6042
				Adj R-squared	0.6018
				Root MSE	0.01317

Source: Research Data (2023)

From table 8 above the analysis of variance (ANOVA) has F –statistic (14, 2469) of 251.14 with p-value of 0.000. Since 0.0000 is less than 0.05 we fail to accept the null hypothesis, **H0**. We conclude that corporate performance had a statistical significant intervening effect on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The results further show an adjusted R-square of 0.6018. This suggests that 60.18 percent of the variations in effective corporate tax rate in the study period are due to changes in the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate. Nevertheless, there are 39.82 percent of changes in effective corporate that is attributable to other variable outside this model.

CONCLUSION AND RECOMMENDATIONS

The objective of the study was to determine the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The results revealed that corporate performance had statistical significant intervening effect on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The outcome of the analysis failed to accept the null hypothesis. Therefore, corporate performance had statistical significant intervening effect on the relationship between investment incentives and effective corporate tax rate for manufacturing firms in Kenya. The inclusion of corporate performance strengthened the relationship between investment

incentives and effective corporate tax rate for manufacturing firms in Kenya.

The results further showed that when corporate performance is introduced in the model, investment incentives still remain statistically significant. The joint influence of investment incentives and corporate performance was higher than the individual effect on effective corporate tax rate for manufacturing firms in Kenya. The implication is that corporate performance is a critical decision variable for any desired level of effective corporate tax rate. This is because as manufacturing firms plan to benefits from fiscal investment incentives, corporate performance remain an important element of decision framework that facilitate maximizing returns and help in strategizing for competitive environment.

The thrust of the finding is that fiscal policy must interact favourably with corporate performance strategy for any desired level of effective corporate tax rate. The results indicated corporate performance had intervening effect on the relationship between profit based investment incentive, capital investment incentive and custom duty and effective corporate tax rate for manufacturing firms in Kenya. The finding could be likened to other studies which show that ROA control for the level of effective tax rate. Effective tax rate is used to calibrate the tax volume of companies and evaluate tax planning efficacy In addition the study supports other findings that showed profitability had intervening effect on the relationship between financial variables and ECTR.

In light of discussion of the findings and conclusions thereof this study makes recommendation for

practical application and policy consideration. The study found out that investment incentives and corporate performance had significant statistical effect on effective corporate tax rate for manufacturing firms in Kenya. It is therefore recommended that manufacturing firms should have a robust financial framework for monitoring and evaluation of how effective corporate tax rate responds to investment incentives and corporate performance. This framework will provide relevant data on the level of volatility and stability of effective corporate tax rate with a view to strategise on how to smoothen it. This is because volatility in effective corporate tax is a reflection of the negative impact of fiscal policy on corporate financial planning.

The findings of the study revealed that investment incentives had statistical significant effect on effective corporate tax rate for manufacturing firms in Kenya. This outcome help policy makers appreciate that fiscal policy and corporate policies are co-jointly important in supporting business investment and overall economic growth. Given the declining contribution of manufacturing sector to GDP in Kenya, it is recommended that the National Treasury should enhance implementation and introduce reforms on investment incentives. This is because investment incentives are critical components and constructs of improved tax competition environment within an economy. In addition, the National Treasury should develop a systematic monitoring and evaluation (M&E) framework. The M& E framework will be able to provide feedback on the effect of investment incentives on manufacturing firms. The feedback will facilitate design, reform and promote

continuous implementation of investment incentives as a fiscal policy intervention.

Contribution to Knowledge

The findings of the study are to guide business executives, tax analysts, investors and financial experts on importance of utilizing investment incentives during corporate planning before concluding that firms in Kenya are facing unprecedented tax burden. The study also help managers in understanding investment incentives as important fiscal policy instruments used in addressing corporate tax burden. In addition, corporate performance is an important variable in designing tax management strategy at firm level.

The study has made significant contribution to existing empirical literature on the intervening effect of corporate performance on the relationship between investment incentives and effective corporate tax rate. The study is important to the academicians in strengthening the assertion that fiscal policy instruments impact prudent financial management not only for sustainable economic growth but also for private sector development. It will also add to finance theory by showing intervening effect of corporate performance within the context of political power theory which asserts that firms exploit corporates power to lower effective corporate tax rate.

Suggestions for Further Research

The antithesis of this study is that investment incentives are sometimes utilised by firms as avenues for tax avoidance. Hence, the need for further research on the antithesis that investment incentives are sometimes utilised by firms as avenues for tax avoidance and may cause unfavourable tax expenditures.

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