
**EFFECTS OF FOREIGN DIRECT INVESTMENT ON TAX REVENUE
PERFORMANCE IN KENYA**

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Abstract

For any government to effectively carry out its primary function and other subsidiary functions, it requires adequate funding. Taxation generates public funds to governments through structured approaches. Tax is a compulsory payment imposed by the government on the incomes and profits of individuals and corporate bodies. The amount of tax revenue realized or expected by any state is determined and influenced by various economic factors ranging from micro to macro-economic. In Kenya, tax revenues have, for quite some time, remained low relative to the effort and tax policies in place. This study examined the effects of macroeconomic variables on tax revenue performance in Kenya using annual time series data of ten years for the period 2009 to 2018, to estimate a linear model of tax revenue performance and the selected macro-economic factors. The period is extensive enough to give accurate results. The study adopted a correlation research design which is a non-experimental research design technique that helps researchers establish a relationship between two closely connected variables. Secondary data from the Central Bank of Kenya, Kenya National Bureau of Statistics (KNBS), Kenya Revenue Authority (KRA) and World Bank were collected and presented using tables and figures. The study carried out pre-estimation tests so as to validate the results. Unit Root Tests was done to detect for stationarity using Augmented Dickey Fuller (ADF) test, Cointegration was done to test for long run relationship between the dependent variable and the independent or predictor variables. Multicollinearity test was done to find out if the predictor variables are highly correlated using Vector Integrating Factor (VIF), heteroscedasticity test was done to find out if residuals are equally distributed using Breusch-Pagan-Godfrey test. Time series data was collected using documentary analysis and analyzed using Stata and E-views software programs. Time series data rules out the option of collecting biased data from primary sources, it also provides larger and higher-quality databases that would be unfeasible for any individual researcher to collect on their own. The study established that there is a link between the macroeconomic variables and tax revenue performance. It indicated that the coefficient of foreign direct investment (0.311568) units and GDP per capita (0.8128243) from the model exhibited a statistically significant positive relationship with tax revenue performance, whereas the inflation (-0.183015) and unemployment rates (-0.343756) negatively influenced tax revenue performance in Kenya for the period of time under the study. The results also revealed that the model was good in terms of goodness of fit and overall significance with R² value of (0.7371) and a probability value of 0.0000. These

means that 73.71% of the variation in tax revenue is explained by the explanatory variables in the model while the other proportion 26.29% is explained by other factors not considered by this study. These findings inform the government and its tax administration on the initiatives and measure to adopt in improving revenue growth and performance. The government should also develop strong mechanism to mobilize more resources for its revenue.

1. Introduction

1.1 Tax performance

For any given state, one of the key functions is to raise tax revenue. In order to meet its fiscal obligations, government needs to increase revenue. Mashkoor, M et al (2010), confirmed that in as much as governments often use various methods of raising resources, taxation is the key and most important source of government revenue. (OECD 2012), stressed on strengthening the utilization of domestic revenue for public expenditure financing as well as the core role of taxes in the field of development and redistribution. In order for any state to fulfill its task effectively, it needs to raise funds, e.g. to provide protection to its people, to provide justice or to run the state, and to follow certain growth agendas. Through its key role as a bridge between the ruler and the citizen, tax levying promotes the participation, transparency and state capacity Bräutigam (2002).

Globally, countries with a low-income tax gain or weak tax law compliance experienced tough times. International players such as the Organization for Economic Co-operation and Development (OECD), the World Bank and the G20 called for more concerted steps to tackle tax dodging and evasion. With the world facing the global financial and economic crises, the emphasis on tax havens to improve the openness of their tax regimes and put an end to unequal trade practices has been rising. For example Malaysia, Colombia and Vietnam have seen a downturn in tax performance as a consequence of non-tax revenue rises since 2003-2015. Throughout Western Europe as well as in other previously socialist states in Eastern Europe and the former Soviet Union countries with high tax results predominate. The highest income countries with tax ratios below the trend line are the USA, Japan, Ireland and Switzerland by the European Commission in 2014. Bangladesh, Pakistan, Cambodia, Malaysia, Sri Lanka, India, Indonesia, Nepal and Philippines are among low-performers, as opposed to southern and southeast Asia. Most Latin America and the Caribbean countries are also below the standard, with the low-tax groups of Honduras, Venezuela, Paraguay, Panama, the Dominican Republic and Colombia. Brazil and Guyana are the only high tax payers in this zone (Pearson 2013).

Regionally, many developing African countries have problems generating public revenue. In Africa most government budgets have shortages that impede policy expenditures, which are essential to economic growth, in humane and capital projects. Foreign monetary fund's support programs in African sub-Saharan countries have included steps for tax revenue growth and fiscal reform in these countries in recent years. Countries with relative high tax revenues tend to have high tax index.

In Africa, goods and services taxes contributed to the biggest share in 2012 at 5.2 per cent of GDP, while international tax revenue accounted for 5 per cent of GDP and sales and income taxes accounted for 4.6 per cent of GDP (World Bank, 2014). Several sub-Saharan African countries have recently succeeded in reforming their tax system, for example Benin has implemented a substantial tax and administrative reform plan contributing to changes in the framework of the tax system and a rise in the GDP-to-tax ratio. Similarly, countries such as Ghana, Burundi, Liberia, Morocco and Algeria were classified as high-tax countries in the study recently undertaken by the World Bank in Africa (World Bank, 2014), whilst central African countries (e.g. Sudan, Central African Republic, Nigeria) are rated as low-tax performers who have been associated with higher death tolls in armed conflict and violence (OECD, 2013).

Taxation is the primary source of government spending funds in Kenya, like most developing nations. Report by the Institute of Economic Affairs reveals that tax revenue accounted for 80.4 per cent of total government taxes and grants between 1995 and 2004. They also argued that taxation was implemented to achieve two goals; to collect adequate tax revenue to fund public expenditure with far less borrowing; and, second, to leverage revenue in a manner that is rational and minimizes its disincentive impact on economic activities (Moyi et al 2006).

Kenya has shifted over time from being a low tax burden country to a high tax burden country, yet the country faces the apparent need for more tax revenue to maintain public services. Notwithstanding improvements, tax authorities face significant obstacles in their main revenue collecting function. Nyaga; J. N. et al (2016), in their study noted that although the tax reforms experiences seemed encouraging, there still existed gaps that needed further improvement.

1.2 Foreign Direct Investment and Tax Revenue Performance

Foreign Direct Investment can be defined as long term venture that incorporates the introduction of international funds into a company operating in a different nation other than that of the financier. The investor has a substantial degree of impact on the running of the firm and for practical functions the investor must have 10% of the level of ownership of the enterprise (UNCTAD, 2009). FDI can take several forms. First, it's a Greenfield venture which has setting up of a new activity in another nation. The other forms are mergers and acquisition with an existent company in that different nation, startup project, a joint venture with local partner, or partial acquisition through licensing (UNCTAD, 2009)

Ngotho, J (2014), in their study on determinants of revenue collection in less developed countries, established that FDI increases productivity and profitability in all sectors of the economy and that an investment environment that encourages FDI is positive as it enhances tax revenue collection.

According to UNCTAD's Inward FDI Performance Index, countries are categorized by the FDI they receive in relation to their economic size. The inward FDI performance index is calculated as the ratio of the country's share in global FDI inflow to its share in global GDP. Globally, FDI inflows to developing countries have improved both in quality and quantity in the recent past.

The African continent has witnessed a dramatic decline in FDI inflows from \$19 billion in 2001 to \$11 billion in 2002 in 23 countries out of 53 countries on the continent. FDI has been influential in the oil producing countries. The countries of North and West Africa such as Mali, Algeria, Senegal, Nigeria and Tunisia generated more than half the 2002 FDI inflows. South African firms have made a considerable commitment to foreign investment abroad. (Uncoda, 2003). In total, Africa's FDI inflows decreased to \$42.7 billion within three years. In North Africa the decline has primarily been due to the fall in FDI inflows. Alas, their inflows were interrupted by political stability, as did Egypt and Libya, the main beneficiaries of FDI inflows.

FDI is a simple and well defined legal framework that the Kenyan parliament developed in the Foreign Investment Security and Investment Promotion Act of 2004. In the 2004 Investment Promotion Act the Investment Code under Kenya directs regulatory and legal processes in order to create an atmosphere of trade and investment that is more desirable. Kenya was one of East Africa's leading FDI destinations in the 1970's. In the 1970s, FDI balances rose to 10 million USD and in the 1980s to 80 million USD. Poor governance, poor economic practices, high tax rates along with graft and inadequate public service delivery have caused Kenya's small FDI flows since the beginning of the 1980s. That is why the global rise in FDI flows, which began in the mid-1990s, left Kenya out of the economic situation (UNCTAD 2005). At present, Kenya earned USD 1.6 billion FDI in 2018, up from USD 1.2 billion in 2017. The total stock of FDI stood at USD 14.4 billion in 2018 (UNCTAD, 2019). In recent years the ICT sector has attracted the most FDI thanks to the arrival of the fiber optics in 2009-2010 (KNBS, 2010).

The results and interaction of taxes and foreign direct investment can be learned from past research studies. Various research show a different tax connection for FDI. The OECD report shows that a rise of 1% in company tax in the FDI was 0.5%. This is also shown by a decline in corporate tax and other tax incentives that directly influence corporations, in Kenya where FDI has been rising since 2010 to USD 1.6 billion in 2018. The government has also been on a spree of creating favorable tax rates for the corporate sectors by decreasing the excise and custom duties.

Djankov et al. (2010) investigated the effect of corporate taxes on investment. They found that effective corporate tax rates have a notable negative correlation to foreign direct investment, investment and entrepreneurship. Such corporate taxes reduce investment in turn lowering productivity adversely affecting economic growth.

2. Objective of the study

To determine the relationship between Foreign Direct Investment (FDI) and tax revenue performance in Kenya.

Research Hypothesis

H₀₁: There is no statistically significant relationship between Foreign Direct Investment and tax revenue performance in Kenya.

3. Scope of the Study

The study has covered a period of ten years, starting from 2009 to 2018, with the variables measured at a national level. The period covered was extensive and therefore more likely to give accurate results.

4. Review of Literature Review

literature review

A number of studies have been carried out to analyze the effects of taxation on FDI. The studies suggest that the relevance of taxes in FDI attraction is ambiguous as many analyses have shown that there are far more important factors, usually related to market, politics, infrastructure and cost conditions (Morisset, 2003) making taxation less important when put in comparison but this does not mean that taxes are irrelevant. The main factors that influence investment decisions in the less developed countries include political instability, economic and business freedom, fiscal incentives, liberal trade, government expenditure, inflation, corruption, property rights and labor regulations (Kayonga, 2008).

Hansson and Olofsdotter (2010) did a study to analyze how foreign direct investment is affected by corporate tax rates and agglomeration economies among the European Union countries. The study focused on differences between tax policies in old and new member countries. The paper dealt with agglomeration forces and how they may explain differences in tax policies between new and old member countries. The model used views the foreign direct investment decision as a two-step procedure: first, the decision on which location to invest, and second, a flow decision of the amount of FDI to invest. The paper used data on effective marginal and average corporate tax rates for all twenty-seven European Union member countries and covered the period 1995-2006. Despite of the findings in this study, the researcher only focused on how FDI is affected by corporate tax only and did not consider other factors that influence the decision on where to invest a foreign business which include the host country's real wage rates, taxation, exchange rates, land and property rents/rates, fuel costs, local input costs, transportation costs and cost of capital. Similarly the study only focused on how corporate tax affects foreign investments and not how tax revenue performance is affected by foreign investments. This study intends to find out how tax revenue performance in Kenya is affected by investments from foreigners.

Schoeman et al. (2000) used a long-run co-integration equation for FDI in South Africa in a period of 30 years to analyze how government policy mainly deficit and taxes affects FDI. The study used GDP ratio to represent the government's fiscal discipline and the relative tax burden on investors in South Africa. The findings show that fiscal policy variables such as tax have a negative effect on FDI flows to South Africa. The study recommends to the South African government to adjust fiscal policy since the tax burden is relatively high. . The study above however ,only sought to find out how FDI inflows is affected by taxation policies in south Africa which may not clearly indicate how tax performance of a country is affected by FDI inflows. This study intends to find out how tax revenue performance is affected by FDI particularly in Kenya.

Nyamwange (2009) carried out a study to establish the main factors that influence FDI decisions in Kenya and to determine the impact of FDI on the economic growth in Kenya. The results of the study showed that FDI in Kenya is mainly determined by the size of market, taxation, macroeconomic factors and the level of human capital. Kinaro (2006) used a time series analysis in his study and the findings revealed that the determinants of FDI in Kenya include openness to trade, taxation, human capital, real exchange, inflation, and FDI in the previous periods. The studies above used panel data to evaluate how FDI is affected by taxation policies in the selected countries. This may not give comprehensive information on how other types of taxes may affect FDI such as labor income and consumption taxes in addition to corporate taxes. This current study uses time series data to analyze how tax revenue performance is affected by foreign investments in Kenya.

Previous studies have been thorough in bringing out the effects of tax rates on the amount of foreign direct investments that flow to different countries. They failed to indicate what impact does foreign direct investments have on the tax revenue performance on global economies hence this paper will be explicit in bringing out the positive relationship between foreign direct investment and tax revenue performance in case study country Kenya.

5. Research methodology

Model Specification

To establish if there is a relationship between macro-economic factors (FDI, GDP per capita income inflation and unemployment) and tax revenue performance in Kenya. The researcher conducted a multiple regression analysis using the following model;

$$T = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.X_4 + \varepsilon$$

Where; T = tax revenue performance was measured using tax revenue figures from the year 2009-2018 available on KRA website.

α = Constants.

$\beta_1 \dots \beta_4$ = the slope which represents the degree with which tax revenue performance changes as the independent variable change by one unit variable.

X_1 = Foreign Direct Investment (independent variable). Annual figures for the year 2009-2018 retrieved from KNBS website.

X_2 = GDP per capita Income (independent variable). Annual figures from the year 2009-2018 retrieved from World Bank website.

X_3 =Inflation (independent variable) was measured using Consumer Price Index (CPI). The annual figures for the year 2009-2018 are available on KNBS website.

X_4 = Unemployment

ε = error term

Estimation procedure

The study builds on existing research studies and methodologies using correlation research design. Several pre diagnostic test were performed which included; summary descriptive, correlation test using pairwise correlation, unit root test using Augmented Dickey Fuller, determination of optimum lags and finally co-integration test using Johansen Co-integration test. Vector Error Correction Model method was used in the model to check for long run and short run causality of the regressors and regressand. Post diagnostic tests of the model under the research study were also performed which included; test for multicollinearity, skewness kurtosis test for data normality, test for model stability and serial correlation among the variables and finally test for heteroscedasticity in the error term. The main advantage of using this design is to enable the researcher to identify the factors and measure their performance. Linear relationships on the explanatory variables were tested using the pairwise correlation matrix. unit root tests was carried out to appraise the effect of shock and to avoid spurious regression related to non-stationary variables by using Augmented Dickey Fuller test (ADF) statistics. The null hypothesis is $H_0: \delta = 0$ the alternative hypothesis is $H_1: < 0$. If the computed ADF statistics is greater than the ADF critical value at a given significance level, do not reject the null hypothesis because unit root exists. . One way to guard against spurious regression is to find out if the time series are co-integrated. Variables are said to be co-integrated if they have a long-term or equilibrium relationship between them. This study used Ordinary Least Squares for regression analysis in STATA version 13. Skewness Kurtosis was used to test for normality and it was established that the probability chi2 value of skewness was above 0.05, This study used Breusch-Godfrey LM test to check for the presence of autocorrelation. To test for the presence of multicollinearity, this study used Variance Inflation Factor (VIF). For VIF values greater than 10, multicollinearity is deemed to be present (Nachtsheim, 2004). This study used the Breusch-Pagan test to check for the presence of heteroscedasticity (Gujarati, 2009).

6. Results and findings

The results presentation starts with the presentation of results of pre-estimation tests descriptive statistics.

Table 4.1 Descriptive Statistics

Variables	Observations	mean	Std. Dev	Min	Max	skewdness	kurtosis
Tax Revenue	44	9.63e+08	3.59e+08	4.71e+08	1.49e+09	.1107783	1.51884
FDI	44	1111.058	386.6959	131.642	1704.125	-.428901	2.300713
Gdp per Capita	44	1044.443	91.02041	896.6402	1222.825	.2007324	2.024409
Inflation	44	8.247273	3.610454	2.3525	16.94719	.7899919	2.751334
Unemployment	44	11.83199	1.23415	7.99375	15.92646	.2596774	7.265386

Source: Author’s Computation based on STATA 2020

From the above table, it is clear that there is high spread of data among variables. From its nature, it was so anticipated since time series data especially those, which include aggregates follows a random or stochastic process.

The tax revenue performance had an average value of 9.63e+08, least value of 4.71e+08, maximum value of 1.49e+09, standard deviation of 3.59e+08, skewness value of 0.1107783 and Kurtosis value of 1.51884. Foreign direct investment had an average value of 1111.058, least value of, 131.642, the maximum value of 1704.125, the standard deviation of 386.6959, skewness-0.428901 value of and Kurtosis value of 2.300713. GDP per capita Income had an average value of 1044.443, least value of 896.6402, maximum value of 1222.825, standard deviation of 91.02041, and skewness value of 0.2007324 and Kurtosis value of 2.024409.

Inflation had an average value of 8.247273, least value of 2.3525, maximum value of 16.94719 , the standard deviation of 3.610454 , skewness value of 0.7899919 and Kurtosis value of 2.751334 . Unemployment had an average value of 11.83199 least value of 7.99375, maximum value of 15.92646, and standard deviation of 1.23415, skewness value of 0.2596774 and Kurtosis value of 7.265386.

From table 4.1, data for foreign direct investment was widely spread than other variables 386.6959 million USD. This is mainly because of the fluctuations in the investment caused by

unfavorable conditions in economy such as corruption, high interest rates and political instability. It also had a large mean which is an indication of the fact that economy revolve around investment. GDP per capita Income also had a large mean value because of the economy growth. The range of data, which is the difference between the maximum value and minimum value was a huge gap which demonstrates different economic conditions that the Kenyan economy has been going through within the time period used in the study. Analysis of skewness showed that GDP per capita income, tax revenue performance, inflation and unemployment are asymmetrical to the right around their mean, while foreign direct investment is negatively skewed. Consequently, unemployment has the highest peaked regressor compared to other variables.

4.2 Vector Error Correction Model

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval	
<hr/>						
D_dltxr						
_ce1 L1	-.218122	.0550395	-0.40	0.0192	-.1296876	.0860632
D_dlfdi						
_ce1 L1	-6.744658	.3294621	-20.47	0.000	-7.390392	-6.098924
D_dinf						
_ce1 L1	.6104296	3.841346	0.16	0.874	-6.91847	8.139329
D_dlgdp						
_ce1 L1	-.1580929	.0167074	-0.95	0.344	-.0485559	.016936
D_ddune						
_ce1 L1	-.3528668	.354401	-1.00	0.319	-1.04748	.3417465

Source: Author’s Computation based on STATA 2020

With this model (Vector Error Correction) the study can estimate both the short run and the long run causality. Long run causality is confirmed if the error correction term (ECT) is significant and the sign is negative, from the model the ECT is $-.0218122$ and it is statistically significant at 5% confidence level of the dependent variable. Therefore the study concluded that there is long run causality which runs from the independent variables.

The results further reveals that lag one of the log of foreign direct investment, is individually significant in influencing tax revenue at 5% percent level of significance in the short run. On the other hand, all the other three lags of inflation, log gross domestic product per capita and unemployment are not individually significant in influencing log tax revenue at 5 percent level of significance in the short run since their p values are not significant.

Table 4.3 Regression analysis

Dltxr	Coefficients	Std. Err.	Z	P> z	[95% Conf. Interval]
Dlfdi	.311568	.1340745	2.32	0.001	-.1015635 -.0307501
Dinf	-.183015	.12269	-1.49	0.000	-.0128728 -.0077302
Dlgdp	.8128243	.3612513	2.25	0.030	-1.544789 -.0808595
ddune	-.343756	.13589	-2.53	0.016	.0068416 .0619096
Cons	.0319441	.0099041	3.225	0.000	.0248441 .0390441
Number of obs = 42		Prob > F = 0.0000		Adj R-squared = .01313	
F(4, 37) = 25.93		R-squared = 0.7371		Root MSE = 0.7087	

Source: Author's Computation based on STATA 2020

From the table above, the results reveal that the model was good in terms of goodness of fit and overall significance with a (R^2) of 0.7371 and a probability value of 0.0000. These means that 73.71% of the variation in tax revenue is explained by the explanatory variables in the model while the other proportion 26.29% is explained by other factors not considered by this study. Probability value of (0.0000) implies that the variables in the model are jointly significant in explaining tax revenue at 5% level of significance.

The key objective of this paper is to establish the level of association between Foreign Direct Investment (FDI) and tax revenue performance. The following is the regression equation obtained;

$$Dltxr = .0319441 + .311568DIFDI_t - .183015DINF_t + .8128243DIGDP \text{ per capita}_t - .343756DUNE_t + e_t \dots \dots \dots \text{(Equation 2)}$$

Where $Dltxr$ = natural log of the first difference of tax revenue

$DIFDI$ = natural log of the first difference of foreign direct investment.

$DINF$ = first difference of inflation rates.

$DIGDP$ = natural log of the first difference of gross domestic product per capita.

$DUNE$ = first difference of unemployment.

e = the error term.

t = time series data

Interpretation of results

The above estimating model shows that if all other explanatory factors are held constant, the annual FDI share of GDP will reduce by .0319441 units. The coefficient is positive hence the effect of foreign direct investment on tax revenue performance is statistically significant and exhibited positive sign as was expected. An increase foreign direct investment by one unit would increase tax revenue performance by .311568 units. This observation can be explained by the fact that, as more investors are attracted into the country due to favorable business environment, low domestic interest rates and political stability, more industries are set up that contribute to increase in corporate tax .As growth and development of corporations increase in Kenya more tax is derived by taxing the corporate yielding more revenues for the government in form of Corporate Tax. Schoeman et al. (2000) used a long-run co-integration equation for FDI in South Africa in a period of 30 years to analyze how government policy mainly deficit and taxes affects FDI. The study used deficit/GDP ratio to represent the government’s fiscal discipline and the relative tax burden on investors in South Africa. The findings show that fiscal policy variables such as tax have a negative effect on FDI flows to South Africa Previous studies have shown

how taxes in different jurisdictions affect foreign direct investment flows in respective countries. Our studies showed that there was a positive relation between FDI and tax revenue performance.

7. Summary and conclusion

Tax revenue is important for any country since it enables the country's government to cater for the welfare of her people. In addition, a country that mobilizes adequate tax revenue reduces her budget deficit which translates into reduced external borrowing. Heavy investments from foreign corporations and individuals is good for economic growth since there will be capital inflows into the country creating employment opportunities, triggering a ripple effect in the other businesses since there will be high purchasing power by citizens leading to high source of revenue for government through corporation tax for companies, import and excise duty for importation goods and manufacturing respectively. The study investigated the impact of Foreign Direct Investment (FDI) on tax revenue performance in Kenya. The study employed Ordinary Least Square (OLS) method in analyzing time series data captured over the period 2009-2018. The empirical results shows that units increase in foreign direct investment would result to an increase in tax revenue performance.

Conclusion

From the results there is a link between foreign Direct Investment (FDI) and tax revenue performance. This findings indicates that Foreign direct investment exhibited a statistically significant positive relationship with tax revenue performance, Therefore the null hypothesis that states that Foreign Direct Investment have no statistical significance to tax revenue performance was rejected .

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