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Abstract

This research is an empirical study on the effects of tax burden on foreign direct investment inflows into the East African Community member countries. The purpose of this study is to determine empirically the effect of tax burden on foreign direct investment inflows into the East African Community countries. This study is anchored on tax competition theory which supports the proposition that in host countries, when tax burden decreases, FDI inflows increase. Therefore, host governments lower tax burden to attract increased and consistent investment inflows into the country. Hence, this strategy creates competitive advantage based on tax burden. Equally, this competitive advantage is expected to result in benefits such as human capital and financial development that positively impact on the economic development in the country (Yin, Ye and Xu, 2014). Therefore, use of tax burden to attract FDI inflows is an act of tax competition. World over, several empirical studies have been conducted to establish the relationship between tax burden and FDI inflows. Some studies have found that tax burden has positive effects on FDI inflows while other studies have found that tax burden has negative effects on FDI inflows. Still, other studies have found that tax burden has no effects on FDI inflows. Therefore, there is no consensus on the effects of tax burden on FDI inflows. This study seeks to answer the question: what is the effect of tax burden on FDI inflows into the EAC countries?

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The study used correlational research design on secondary data from 2000 to 2013 for Burundi, Tanzania, Uganda, Kenya and Rwanda. The dependent variable was FDI inflows while the independent variable was tax burden. Data analysis (Johansen tests of co-integration, summary statistics tests, variable's trends, covariance analysis, correlation analysis, Granger-causality and Vector Error Correction (VECM) Models) and hypothesis tests (ANOVA and regression analyses) were conducted. The study found that tax burden had insignificant negative coefficients during the study period. The study concluded that tax burden had insignificant negative effect on FDI inflows in the EAC countries. Therefore, tax competition theory does not hold in the East African Community countries. The study contributes to research by providing empirical evidence on the relationship between tax burden and FDI inflows in the EAC countries. In addition, the study contributes to practice since tax policy formulation in the EAC countries as evidenced by tax incentives such as tax concessions and tax holidays is influenced by the need to attract FDI inflows. However, the results indicate there is need to refocus away from use of tax policy in efforts attract FDI inflows into the EAC countries. The study recommends a repeat of same study in presence of other independent factors such as economic development indicators and macroeconomic factors to determine the effects of tax burden on FDI inflows into the EAC countries.

Key Words: *Tax Burden, FDI Inflows & EAC.*

1.0 Introduction

Foreign direct investment (FDI) inflows are international investments that countries compete to attract. According to Hussain and Kimuli (2012) and Boopen, Wahid, and Rojid (2009), FDI inflows have many benefits to a host country such as increased economic development, creation of employment and technology transfer. FDI inflows are long-term foreign investments that flow as equity capital and/or debt during initial and subsequent investment transactions (OECD, 2008). This necessities host governments to seek means, such as reduction of tax burden to attract FDI inflows.

East African Community (EAC) countries of Burundi, Tanzania, Uganda, Kenya and Rwanda have attracted FDI inflows over the years for the various benefits. Nevertheless, economic development in the EAC countries has improved over the years with real Gross Domestic Product (GDP) growing from 31.5 billion US dollars to 49.5 billion US dollars from 2000 to 2013 (EAC, 2015). Most of the growth has been financed with tax revenues among other domestic mobilized revenues.

In recent times, domestic revenue has become an important source of economic development since foreign aid is not reliable as evidenced by the decreasing proportion of aid to GDP and the governments are constrained in accessing financial markets to borrow (Sichei & Kinyondo, 2012: World Bank, 2015). Reliance on tax revenues results in differing tax burden in each country which creates uncertainty in the tax regimes. Greater use of tax burden in development of the region has resulted in increased taxation. Consequently, according to Eshete (2014), this has led to FDI outflows inform of capital flight to other regions with favourable tax regimes such as tax havens.

However, empirical literature provides contradictory evidence of the relationship between tax burden and FDI inflows into host countries. There are studies that report negative relationship between tax burden and FDI inflows (Zirgulis, 2014: Baldwin and Okubo, 2009). While, other studies report no relationship between tax burden and FDI inflows (Hunady and Orviska, 2014: Kersan-Skabic, 2015 and Hansson and Olofsdotter 2010). Consequently, there is no universal consensus on the relationship between tax burden and FDI inflows.

Current study contributes to this debate in EAC countries. The research question is: what is the effect of tax burden on FDI inflows into the EAC countries? The objective of the study is to determine the effect of the tax burden on FDI inflows into the EAC countries. The paper is

arranged as follows: part one is introduction, part two discuses theoretical underpinnings and literature, part three presents methodology, part four is research results and discussions. Part six is the conclusion of the study.

Tax burden

Tax receipts are important revenues that enable governments achieve the many objectives of levying tax such as generation of adequate revenues and protection of home industries. To achieve set objectives, governments boost domestic revenue mobilization by actions such as increasing tax rates and expanding the tax base to influence tax receipts positively thus increasing tax burden. Tax burden is defined as the total tax revenues divided by the GDP in a country (Atrostic and Nunns, 1988: Australian Treasury, 2012). Therefore, studies on taxation aspects such as tax types, tax rates, tax bases and tax structures are essentially studies on tax burden since they contribute directly to tax revenues.

Tax revenues have other benefits such as potential governance and state-building, potential trade liberalisation and releases governments from reliance on foreign aid (Mascagni, Moore & Mccluskey, 2014). Consequently, benefits that accrue from tax revenue receipts render tax one of the most important sources of host government revenue.

However, though governments are in need of revenues, tax burden should not be at the expense of local and international investors. According to OECD (2008), tax burden has capacity to act as entry barrier, internal barrier and exit barrier. In addition, tax may affect efficiency and cost of doing business in the host countries. Therefore, there is need for host governments to balance use of tax burden for mobilization of tax revenues and for attracting foreign investors since tax plays a role in attracting international investments (Nuta and Nuta, 2012). However, Ghinamo, Panteghini and Revelli (2007) reveal that governments manipulate tax burden components (tax rates, tax bases, tax breaks, tax holidays, and tax incentives) to attract FDI inflows. Therefore, any changes in tax burden components may influence FDI inflows. Accordingly, tax burden affects profits realised in the host country and profits repatriated to home countries.

Foreign direct investments

FDI refers to inflows and outflows of investments into a country or region. In any international investments, FDI inflows are throughout the life of the investment. According to OECD (2008), FDI flows in the initial transactions as green-fields investments, cross-border mergers and acquisitions [M&A] and joint ventures [JVs]) and in subsequent transactions as equity capital, intra-company loans and non-equity investments. Hence, international investors seek safe investment destinations with high return on investment (ROI). However, FDI inflows are attracted into a country by factors such as presence of previous FDI inflows, economic development indicators, macro-economic factors, political stability and strong institutions.

In addition, host countries seek FDI inflows for potential benefits. According to Moolman, Roos, Roux and Toit (2015) and Hussain and Kimuli (2012), FDI inflows are cheaper than international loans, increase local investments in all sectors of the economy, facilitate sustainable economic growth and promote development in the host country. FDI inflows also result in technology transfer, human capital development, and increase in exports and reduction in imports (OECD, 2008). Therefore, there is substantial use of tax revenues every year to attract FDI inflows into host countries (Leowendahl, 2016). FDI host countries may be single countries or countries in a regional economic block.

EAC countries

The current membership of the EAC countries is seven countries. However, only Burundi, Tanzania, Uganda, Kenya and Rwanda whose data was available for the whole study period were included in the study. The EAC as a developing region requires international investments to spur economic growth, eradicate prevailing poverty, diminish current high unemployment and reduce individual country's national budget deficits (EAC, 2014). In addition, in recent

years, the region's GDP has been on the rise with agriculture, wholesale and retail trade, and manufacturing sectors being the three main GDP contributors.

The investment environments in the EAC countries continue to attract investments from local and international investors. However, though FDI inflows in the EAC countries have been on upward trend, the inflows are low compared to other regions in Africa. According to EAC (2014), in the past several years, Uganda and Tanzania have consistently attracted more FDI inflows while Burundi has consistently attracted the lowest FDI inflows in the region. The combined FDI inflows to Burundi, Kenya and Rwanda are less than the FDI inflows to either Tanzania or Uganda (EAC, 2014). Therefore, the EAC countries are in need of more FDI inflows for sustained economic growth and development.

1.2 Objective of study

To determine empirically the effect of tax burden on foreign direct investment inflows into the East African Community countries.

2.1 Literature review

The study is anchored on tax competition theory which supports the proposition that FDI inflows increases when tax burden decreases. Therefore, host governments lower tax burden to attract investment inflows into the country. This strategy creates competitive advantage based on tax. The competitive advantage is expected to result in benefits such as human capital and financial development that positively impact on the economic development in the country (Yin, Ye and Xu, 2014). Therefore, use of tax burden to attract FDI inflows is an act of tax competition. Hansson and Olofsdotter (2010) and Benassy-Quere, Fontagne and Lahreche-Revil (2003) previously used this theory in studies on tax and FDI.

Several empirical studies have been conducted to establish the relationship between tax burden and FDI inflows across the world. Hunady and Orviska (2014) investigated key determinants of FDI inflows in the European Union (EU) using panel data and regression models was conducted by. The study focused on country statutory effective tax rates and the effects of FDI inflows using data from 27 EU countries. The study found that corporate tax has no relationship with FDI inflows. Zirgulis (2014) provided further evidence by using Generalized Method of Moments (GMM) system on dynamic spatial models to study the effect of capital taxes and productivity on FDI inflows using panel data from 41 countries. The study found that high growth in domestic productivity and increase in capital tax rates result in reduced FDI inflows. In addition, Cung and Hua (2013) analysed determinants of FDI inflows into Vietnam using descriptive statistical and empirical methods with data from 1999 to 2011. The study found that tax burden, inflation and labour costs were significant in attracting FDI inflows into Vietnam and concluded that among the countries in the region, Vietnam uses tax burden to create competitive advantages. Still Kubicova (2013) examined the role of corporate income tax in FDI inflows into European Union member states using panel data built from time series for the period 2003 to 2011. The study found that labour costs, inflation and infrastructure were significant but had adverse effects on FDI inflows. However, effective tax rates and statutory corporate tax rates were not significant but had adverse effects on FDI inflows into the country. Further, Mughal and Akram (2011) explored effects of market size corporate tax rates and exchange rates on FDI inflows in a low income developing country (Pakistan). Time series data were used from 1984 to 2008. Autoregressive Distributed Lag (ARDL) and error correction model based on ARDL were used for co-integration. Corporate tax rates were found to have no effect on the FDI inflows. Nonetheless, effects of agglomeration economies and corporate tax rates on FDI flows and stocks in the EU was analysed by Hansson and Olofsdotter (2010) to determine the agglomeration forces that may explain the differences in tax policies between the old and new EU member countries. An implicit model on FDI inflows decisions on whether to invest and how much to invest was used. Data were obtained from 27 EU

countries from 1995 to 2006. The study found differences in the determinants of FDI inflows to the EU countries. Tax differentials were found to be important investment considerations in the old 15 member states but not in the new members.

Moreover, Baldwin and Okubo (2009) studied international tax competition in presence of significant agglomeration of economies and firm heterogeneity using Nash Equilibrium, where big economies maintain higher taxes and vice versa. The study found that heterogeneity of companies allows tax schemes with different effects on location decisions. Hence, large companies are sensitive to tax differentials and are likely to relocate to other countries to escape high taxes in big nations. Therefore, by lowering tax rates, small countries can attract high productivity firms. Still, Ang (2008) provided evidence on the relationship between tax burden and FDI inflows by examining annual times-series data from 1960 to 2005 to establish the determinants of foreign direct investment in Malaysia. Corporate tax rates did not attract FDI inflows in Malaysia.

From review of various studies in this section, the effect of tax burden on FDI inflows is either negative or none. Therefore, a conceptual framework depicting the assumed relationships between the tax burden and FDI inflows can be developed. In the conceptual framework, it is assumed there is a relationship between the tax burden and FDI inflows consistent with Cung and Hua (2013). Hence, it is hypothesed that tax burden has significant negative effect on FDI inflows into the EAC countries. This is according to the objective which is to determine the effect of the tax burden on FDI inflows into the EAC countries.

The following is the proposed univariate regression model.

$FDI_{it} = \alpha_{it} + \beta_{T1}TAXB_{it} + \varepsilon_{it}$

where: α is model constant. FDI is FDI inflows, TAXB is tax burden. β_{T1} is regression coefficient. i denotes EAC countries, t denotes time, ε is error term.

3.1 Methodology

According to Shepard et al., (1993), there are several philosophical orientations in social science studies. This study is a quantitative study with a distinct research focus. Hence, the study has ontological, epistemological and methodological foundations. Therefore, the most suitable philosophical orientation is positivism. In addition, this study is longitudinal and uses time series data from 2000 to 2013. The presupposition of the study is to establish presence of relationships between the variables. Hence, the study involves quantitative hypothesis testing of the relationship and quantifications without influencing the independent variable. Therefore, correlational research design is used.

The research study is undertaken using data from five EAC countries of Burundi, Tanzania, Uganda, Kenya and Rwanda leaving out South Sudan and Ethiopia which were not members of EAC during the period under study. The unit of analysis is country. Hence, the study is a census. The study uses secondary data in public domain. FDI inflows data are from the United Nations Conference on Trade and Development statistics (UNCTADStats.), while data for tax burden are from the EAC DataStats. For FDI inflows, data on annual FDI flows and real GDP are required. For tax burden, annual tax revenues and annual real GDP data are required. FDI inflows are the ratio of annual FDI inflows to real GDP with expected positive sign. Tax burden is the ratio of annual tax revenues to real GDP with expected negative sign.

The data analyses are conducted using several processes to enable making deductions about the problem being investigated. In the data analysis, weighted average data from the five EAC countries for the fourteen years under study are used resulting in seventy observations. According to Doane and Seward (2011), data statistics are used to describe the centre of data distribution, variability of data and data shape. In this study, the data is prepared, analyses conducted and hypothesis tested.

In data analyses, there is data diagnostic which entails co-integration tests (Johansen tests of co-integration), summary statistics tests which covers central tendency tests (mean), data

dispersions tests (range [minimum, maximum], and standard deviation) and data asymmetry tests (skewness and kurtosis). Establishing relationships entails use of variable trends, covariance analysis, correlation analysis and Granger-causality. The determination of tax burden association with FDI inflows involves tests using Vector Error Correction (VECM) Models. The hypothesis is tested using analysis of variance (ANOVA) and regression analyses where model summaries are established.

4.1 Results and discussions

The following are the results of data analyses and hypothesis tests.

4.1.1 Co-integration tests

Johansen co-integration tests were conducted between tax burden and FDI inflows. Presence of co-integration was indicated since Trace or Max-Eigen statistics were 0.76 which is more than the critical values at 0.05 levels of confidence.

Table 1: Johansen Co-Integration Test Results, 2000 - 2013

Variables	Statistics	Hypothesized No. of CE(s)	Eigen Value	Statistic	P-value	Critical value	Co-integration Equation
TAXB	Trace	None	0.761	21.440	15.495	0.006	1
		At most 1	0.299	4.265	3.842	0.039	1
	Max-Eigen	None	0.761	17.175	14.265	0.017	1
		At most 1	0.299	4.265	3.842	0.039	1

Prob. = MacKinnon-Haug-Michelis (1999) p-values. Hypothesis 1 - H_0: there is no co-integration equation. H_1: there is co-integration equation. Hypothesis 2 - H_0: there is at most 1 co-integration equation, H_1: there is at most no co-integration equation. a) If $p < 0.05$, reject H_0 and accept H_1. b) Trace statistic > associated critical statistic, reject H_0 and accept H_1. c) Max-Eigen statistic > associated critical statistic, reject H_0 and accept H_1. d). Significance level is 0.05. TAXB is tax burden, FDI is FDI inflows. Significance level is 0.05.

Source: Author computations, 2016.

Though the tests were conducted on raw data, the co-integration results indicate there is one co-integration equation between FDI and TAXB in the EAC countries. According to Boef and Granato (1999), it is important to establish presence of co-integration equations when testing theories because of the requirement to make assumptions about the memory of the time series data. The results demonstrate that TAXB data had co-integration equations while FDI inflows did not have co-integration equations. Hence, additional statistical analysis of the association between FDI and TAXB used Vector Error Correction (VECM) models.

4.1.2 Summary statistics

Table 2 presents the results of summary statistics. FDI inflows mean in the study is not close to the range. This indicates that during the study period, there was sharp, gradual and consistent increase in FDI inflows into the EAC countries. Nonetheless, there was substantial FDI growth as evidenced by the range and the standard deviation results. However, FDI range is more than the mean. The results demonstrate that on average FDI inflows into the EAC countries are almost a quarter of the real GDP. The range indicates consistent increase in FDI inflows into the EAC countries as further evidenced by the standard deviations.

From theoretical expectations, FDI is expected to flow to where FDI has previously gone. Therefore, large amounts of FDI were expected to flow into the EAC countries. The findings support Campos and Kinoshita (2003) who found that in 25 transition economies, FDI is determined by the agglomeration of economies. In addition, previous year's FDI inflows influence current year FDI inflows. The findings are consistent with Murphy and Bhasin (2013) and Raudonen and Freytag (2013). Skewness for FDI is within the acceptable range of +/-2. However, kurtosis results demonstrate that the values are not within the acceptable range.

Table 2: Summary Statistics, 2000 - 2013

Statistic	FDI	TAXB
Mean	23.17	15.22
Maximum	45.06	18.04
Minimum	11.88	12.66
Range	33.18	5.38
Std. Dev.	10.82	1.47
Skewness	0.81	0.18
Kurtosis	2.32	2.26

Note: Mean, maximum, minimum, range, Standard deviation are in percentages. Skewness and kurtosis are unit-less.

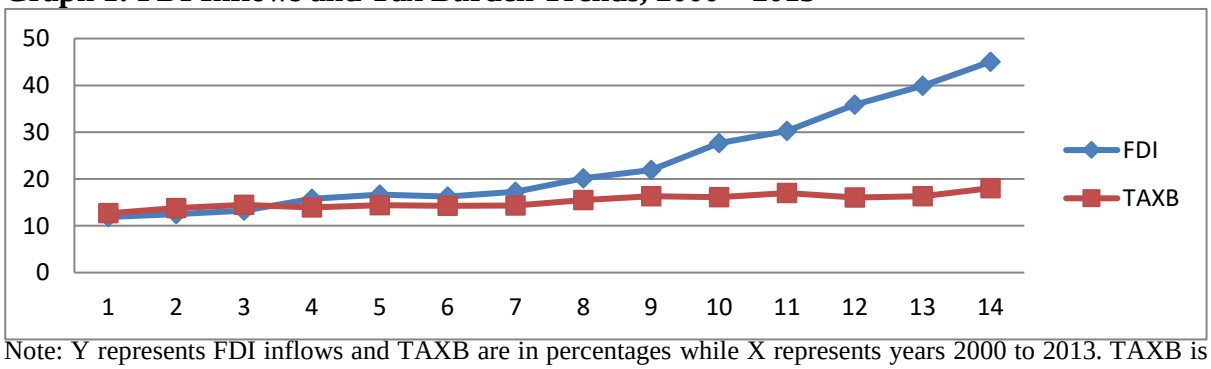
Source: Author computations, 2016.

The test results indicate that for tax burden, the mean is closer to the maximum than to the minimum. This demonstrates that tax burden was consistently high in the EAC countries during the study period. Nevertheless, the tax burden range was narrow as evidenced by the standard deviation. This demonstrates that tax burden is being maintained within a narrow range. Skewness is within the acceptable range while kurtosis is out of the acceptable range of +/-2. Theoretical expectations are that FDI inflows have an inverse relationship with tax burden. Hence, FDI inflows are expected to be influenced negatively by the high tax burden in the EAC countries. However, the results indicate that FDI increased at a faster rate than tax burden. The findings are consistent with Kersan-Skabic (2015) and, Hunady and Orviska (2014) who found that tax had no statistically significant relationship with FDI inflows

4.1.3 Variable's trends

Graph 1 captures tax burden and foreign direct investment (FDI) inflows data trends. The results indicate that in the initial years of the study, FDI and TAXB trends were on positive upward movements though TAXB trends increased at a faster rate than FDI trends. However, by the year 2004, FDI increased at a faster rate than TAXB with the sharpest increase recorded starting around the year 2008. FDI continued on a consistent rising trend to the end of the study period.

Graph 1: FDI Inflows and Tax Burden Trends, 2000 – 2013



Note: Y represents FDI inflows and TAXB are in percentages while X represents years 2000 to 2013. TAXB is tax burden and FDI is FDI inflows.

Source: Author computations, 2016.

TAXB trends did not rise as sharply as FDI trends with the trends lower than the twenty per cent mark throughout the study period. Nonetheless, TAXB and FDI movements were not consistent throughout the study period. Hence, the means and the variances were not consistent. Therefore, the trends for TAXB and FDI were not stationary. The results show that TAXB and FDI on average moved on same direction suggesting non- dependence. The results are

consistent with the findings by Hansson and Olofsdotter (2010) and Mughal and Akram, (2011) who previously found no relationship between FDI inflows and TAXB.

4.1.4 Covariance tests results

The covariance tests show the direction of the variables when one of the variables changes. The results in Table 3 indicate that the relationship between FDI and TAXB had positive covariance signs demonstrating that the two variables in EAC countries were moving in the same direction during the study period.

Table 3: Covariance Matrix, 2000 – 2013

	FDI	TAXB
FDI	108.68	
TAXB	13.11	2.02

Expected sign for FDI covariance with TAXB is –ve. TAXB is tax burden and FDI is FDI inflows.
Source: Author computations, 2016.

The positive covariance sign between FDI and TAXB is contrary to the theoretical expectations. The results demonstrated that high FDI inflow volumes are associated with high tax burden in the EAC countries. The results also show that low FDI volumes are associated with low TAXB. Nonetheless, tax burden did not have the theoretical expected negative covariance sign in the EAC countries. The findings are consistent with Kubicova (2013) and Mughal et al. (2011) who found that TAXB did not have negative relationship with FDI inflows.

4.1.5 Correlation tests results

The correlations coefficient (r) between the independent variables and FDI inflows was established to measure the strength and direction of the linear relationship between the two variables. Any absolute correlation of (r) >/= 0.535 is considered significant. The test results in Table 4.4 demonstrate that FDI had significant absolute correlations with TAXB.

Table 4: Correlations Matrix, 2000 - 2013

	FDI	TAXB
FDI	1.00	
TAXB	0.89*	1.00

Note: IrI >2/√n = 0.535. If absolute r = 0.535 or more than the correlation coefficient, then correlation is significant. If absolute r < 0.535, there is no significant correlation. *indicate that there is significant correlation between FDI and TAXB. TAXB is tax burden and FDI is FDI inflows.
Source: Author computations, 2016.

Since FDI had significant absolute correlations with TAXB, it means that FDI and TAXB move in same direction and the variables are strongly associated. In addition, the positive correlation between FDI inflows with tax burden means that when FDI inflows increase, tax burden increases indicating a positive relationship. The findings are consistent with Zirgulis (2014), Cung and Hua (2013) and Ang (2008).

4.1.6 Granger causality tests results

Granger causality tests were conducted between tax burden and FDI inflows. Block Exogeneity Wald Tests were used under VAR environment to test for Granger causality. Test results in Table 5 demonstrate that, the Chi-square associated p-values for tax burden were less than 0.05.

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Journal of Finance & Accounting
Volume 2||Issue 3||Page 1-14 ||December||2018|
Email: info@stratfordjournals.org ISSN: 2616-4965

Table 5: Granger-Causality, 2000 - 2013

VAR Granger Causality/Block Exogeneity Wald Tests			
Dependent variable: FDI			
Variables	Chi-sq	Df	Prob.
TAXB	6.8541	2	0.0325

Note: H_0: independent variable does not Granger-cause dependent variable. H_1: independent variable Granger-causes the dependent variable. If p-value < 0.05, reject H_0 and accept H_1. Significance level is 0.05. TAXB is tax burden and FDI is FDI inflows.

Source: Author computations, 2016.

Granger causality tests conducted demonstrate that tax burden Granger-caused FDI inflows. Therefore, tax burden Granger caused FDI inflows into the EAC countries during the study period. The relationship between tax burden and FDI inflows is supported by the covariance and correlation signs. The findings are consistent with Iqbal et al. (2014) and Wenkai et al. (2009).

4.1.7 Tax burden associations with FDI inflows

The association between tax burden and FDI inflows were established. The tests were conducted to determine presence of long-run and short-run associations using VECM models. The following was the system generated model used during the VECM test analysis for the long-run and short-run association tests between tax burden and FDI inflows.

D(FDI) = C(1)*(FDI(-1) + 4.1923*TAXB(-1) - 87.4324) + C(2)*D(FDI(-1) + C(3)*D(FDI(-2)) + C(4)*D(TAXB(-1)) + C(5)*D(TAXB(-2)) + C(6).

where:

FDI is FDI inflows, TAXB is tax burden, C(1) is long-run coefficient, C(2) & C(3) and C(4) & C(5) were short-run coefficients. C(6) is coefficient of model constant.

Table 6 present results of the long-run association between FDI and TAXB during the study period. Individual significance of the variable indicate that for the long-run association, the t-statistic associated p-value for C(1) was less than 0.05 and positive. Hence, there was no long-run association between FDI inflows and tax burden in the EAC countries.

Table 6: Long-run Associations, 2000 - 2013

FDI and TAXB	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	0.2456	0.0941	2.6098	0.0477
C(2)	-0.6970	0.4072	-1.7116	0.1476
C(3)	-0.2141	0.4552	-0.4702	0.6580
C(4)	0.5178	0.7075	0.7319	0.4971
C(5)	1.1469	0.6433	1.7827	0.1347
C(6)	4.6211	1.8215	2.5370	0.0521
R-squared	0.8260		Adjusted R-squared	0.6518

Note 1: H_0: the coefficients are not individually significant. H_1: the coefficients are individually significant. If p - value < 0.05, reject H_0 and accept H_1. TAXB is tax burden and FDI is FDI inflows. Significance level is 0.05.

Source: Author computations, 2016.

Wald significance tests for short-run associations between FDI inflows and tax burden were conducted. Table 7 presents results of short-run association between tax burden and FDI inflows.

Stratford Peer Reviewed Journals and Book Publishing
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Table 7: Short-run Associations, 2000 - 2013

	Hypothesis	Value	Df	Probability
TAXB	C(2) = C(3) = 0	3.0941	2	0.2129
	C(4) = C(5) = 0	3.6089	2	0.1646

Note 2: H_0: the coefficients have no short-run associations. H_1: the coefficients have short-run associations. If p-value < 0.05, reject H_0 and accept H_1. Short-run association, C(2) & C(3) are coefficients for FDI (lag 1 and lag 2). C(3) and C(4) are coefficients for TAXB (lag 1 and lag 2). TAXB is tax burden while FDI is FDI inflows. Significance level is 0.05.
Source: Author computations, 2016.

The results demonstrate that the Chi-square associated p-value for FDI (lag 1 and lag 2) and TAXB (lag 1 and lag 2) were more than 0.05. Hence, there was no short-run association. Therefore, from the results in Table 4.6 and Table 4.7 there was no long-run and short-run association between TAXB and FDI in the EAC countries during the study period.

4.1.8 Regression analysis

The objective of this study was to determine the effect of tax burden on FDI inflows into the EAC countries. The hypothesis was tax burden has significant negative effect on FDI inflows into the EAC countries. A univariate regression model was used to establish the relationship between tax burden and FDI inflows. The FDI inflows were regressed on tax burden. The significance of the relationship is indicated by the coefficient of the tax burden. The following univariate model was used during the tests:

$FDI_{it} = \alpha_{it} + \beta_{T1}TAXB_{it} + \varepsilon_{it}$

where:

α_{it} is model constant. FDI is FDI inflows and TAXB is tax burden. β_{T1} is regression coefficient. i denotes EAC countries, t denotes time, ε_1 is error term.

Table 8 presents the results of regression analysis.

Table 8: Regression Statistics, 2000 – 2013

MODEL SUMMARY					
R Square	0.028				
Adjusted R Square	0.014				
Standard Error	26.215				
Observations	70				
ANOVA					
	df	Sum of Squares	Mean of Squares	F	Significance F
Regression	1	1349.667	1349.667	1.964	0.166
Residual	68	46732.156	687.238		
Total	69	48081.823			
COEFFICIENTS					
	Unstandardized Coefficients		Standardized Coefficients		
	Coefficients	Standard Error	Beta	t Stat	P-value
Constant	39.719	12.217		3.251	0.002
TAXB	-1.087	0.776	0.168	-1.401	0.166

Note: H_0: There is no significant relationship between TAXB and FDI inflows into the EAC countries. H_1: There is significant relationship between TAXB and FDI inflows into the EAC countries. Dependent variable: FDI. Predictors: Constant, TAXB. TAXB is tax burden while FDI is FDI inflows. Significance level is 0.05.

Source: Author computations, 2016.

The test results demonstrate that TAXB explains a low level of the variations in the FDI inflows in the EAC countries (Adjusted R-squared = 0.014, p-value < 0.05) with a high standard error of 26.215. Hence, TAXB alone is insignificant in explaining the variations in the FDI inflows in the EAC countries. However, the expected result was that tax burden had significant negative effect on FDI inflows into the EAC countries. In addition, ANOVA tests results indicate that the overall model was statistically insignificant (F-statistic = 1.964, p-value > 0.05). Hence, the linear model is not a good fit.

The regression tests were conducted to generate coefficients for the TAXB and FDI inflows into the EAC countries. The test results indicate that the coefficient for TAXB was negative while the t-statistic associated p-value was more than 0.05 thus statistically insignificant. The regression test results demonstrated that tax burden in the EAC countries had insignificant negative relationship with FDI inflows. The findings do not conform to the theoretical expectations. Hence, the hypothesis is not confirmed.

However, the findings are consistent with Kinda (2014) who found that in Sub-Saharan Africa, taxation was not a significant driver for location of international investments and Kubicova (2013) who found that effective tax rates and statutory corporate tax rates (components of tax burden) were not significant determinants of FDI into the EU member states. Hence, in the EAC countries, the effect of tax burden alone on FDI inflows was insignificant and negative during the study period.

5.1 Conclusions of the study

The main argument in this study is that tax burden has negative influence on FDI inflows into the EAC countries. However, from the research results, tax burden had insignificant negative influence on FDI inflows in the EAC countries. The findings are consistent with the positive trends in FDI inflows and tax burden, the positive covariance sign between tax burden and FDI inflows, the high correlation between tax burden and FDI inflows, FDI inflows being Granger-caused by tax burden and lack of long-run and short run association between tax burden and FDI inflows into the EAC countries. The anchor theory was tax competition where tax burden is expected to have inverse relationship with FDI inflows. Therefore, from the results of the study, tax burden alone had insignificant negative effect on FDI inflows into the EAC countries. Hence, tax competition theory is not applicable in EAC countries when tax burden alone is tested with FDI inflows. Consequently, the hypothesis is not confirmed in the EAC countries.

This research contributes to theory of finance in that from a theoretical perspective, tax burden is expected to have negative or no effect on FDI inflows. However, the research has demonstrated empirically that during the study period 2000 to 2013, tax burden had no significant effect on FDI inflows into the EAC countries. On policy implications, in the past few years competition for FDI inflows has influenced the tax policies in EAC countries as evidenced by the tax incentives such as tax exemptions and tax concessions. However, the research findings indicate that tax burden alone in the EAC countries had insignificant negative relationship with FDI inflows. Consequently, host countries in the region should refocus use of tax policies to attract FDI inflows and seek other measures to attract increased and consistent volumes of FDI inflows while mobilizing adequate tax revenues. It is recommended that the study is replicated to cover the period from 2013 onwards to enable comparisons of the research findings. In addition, same study may be repeated but include other independent variables such as economic development indicators and macroeconomic factors.

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