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Determinants of Foreign Direct Investment Inflows in Kenya

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Abstract

Empirical literature on the determinants of FDI flows is extensive but controversial over some determinants of FDI in-flows in developing countries. The objective of this study therefore is to investigate the overall determinants of FDI inflows in Kenya. Dynamic macroeconomic theory and correlational study design provided theoretical framework and specification of a time series multiple regression model. The study used data observed from 1970 to 2015 in World Development Indicators (WDI) data bank. The results show that annual growth rate of GDP, inflation rates and external debt as a proportion of GDP are significant determinants of FDI inflows in Kenya and are therefore important macroeconomic parameters for policy formulation meant for promotion of FDI inflows in Kenya.

Key Words: Foreign Direct Investments, Determinants, Inflows, Kenya

Introduction

Foreign Direct Investments (FDI) are capital investments facilitated by Multi-National Corporations (MNCs) across countries for bilateral or multilateral economic benefits (Choi, 2003). From empirical literature FDIs are pursued by most governments through

bilateral and or multilateral agreements to promote macro-economic growth (Chakraborty, 2002). From the beginning the 21st century, developing countries have focused on providing an enabling macroeconomic environment to attract more FDIs for better macro-economic growth (Campos, 2003). The focus on macroeconomic environment of most developing economies target improving the macroeconomic but quantifiable indicators of economic growth: Annual Growth Rate of GDP (GDPGR), Trade Account Balance (TB), Inflation Rate (INF), External Debt Service as a proportion of GDP (EDSGDP), rate of growth of real exports (EXGR), Current account balance (CA) and previous FDI inflows among others.

The empirical literature on the macroeconomic determinants of FDI flows is therefore large but is characterized by divergent views concerning some determinants of FDI inflows in developing countries. The literature is not only extensive but controversial as well. Domestic market size proxied by GDP per capita for example is the most controversial determinant of FDI inflows in most developing countries (Chakraborty, 2002). Studies by; Campos and Kinoshita (2003) and Obwona (2006) found a positive relationship between host country market and FDI inflows but Edwards (1990) and Jasperson *et.al* (2000) found a negative relationship.

More studies (Akinkube, 2003) for example reveal contemporaneous variables of openness of the economy, exchange rate, quality of institutions and effects of agglomerations. However, the divergent views on these determinants concealed the fact that other contemporaneous variables are also significant. The purpose of this study therefore was to investigate the overall determinants of FDI inflows in Kenya. The study was to provide scientific knowledge to policy makers on macro-economic determinants significant to maximize FDI inflows. The study tested the hypothesis that; $H_0 : \alpha_i = 0$: No significant quantifiable determinants of FDI inflows in Kenya

The quantifiable determinants of FDI inflows were investigated using the revised Moosa and Cardack regression model (Eq. 1.1) (Moosa I. A., 2006). The revision of the model made it possible to capture many macro-economic variables as opposed to its original application on analysis of countries.

$$FDI_t = \alpha_i + \beta_{it} \sum_{i=1}^n X_{it} + \varepsilon_{it} \quad (1.1)$$

Where: FDI_t - Foreign Direct investment at time 't'; X_{it} - exogeneous variable 'i' at time 't';

α_i - The constant; β_{it} - The parameters to be estimated and ε_{it} - The error term assumed to be $\varepsilon = iid(0, \delta)$.

For estimation purposes the equation was transformed into log linear for ease of analysis.

Methodology

This study used correlation research design to establish the determinants of FDI inflows in Kenya. According to Gottman *et al.*, (1969) as cited in (Chakraborty, 2002), correlational research design analysis involves successive observations throughout a

programmed intervention and assesses the characteristics of the change process. It is truly the mainstay of the proposed design package because it serves several simultaneous functions. According to (Obuona, 2006) there are non-economic, qualitative factors such as political stability and incentive policies that are of vital importance in determining FDI. The difficulties and controversies in defining and quantifying these variables prevented the study from including them in the analysis. Popular among the quantifiable variables are; Annual Growth Rate of GDP (GDPGR), Trade Account Balance (TB), Inflation Rate(INF), External Debt Service as a proportion of GDP (EDSGDP), rate of growth of real exports (EXGR), Current account balance (CA) and previous FDI inflows into the country. The following model specifies the quantifiable determinants of FDI inflows in Kenya based on the priori expectation of the study.

$$FDI_t = \alpha_0 + \alpha_1 FDI_{t-n} + \alpha_2 GDPGR_t + \alpha_3 TB_t + \alpha_4 INF_t + \alpha_5 EDSGDP_t + \alpha_6 EXGR_t + \alpha_7 CA_t + \varepsilon_t \quad (1.2)$$

Where: FDI_t is Foreign Direct Investment inflow at time t ; $GDPGR_t$ - Annual Growth Rate of GDP at time t which is used as proxy to rates of return; TB_t -Trade Account Balance at time t ; INF_t - Inflation Rate at time t ; $EDSGDP_t$ - External Debt Service as a proportion of GDP at time t ; $EXGR_t$ -rate of growth of real exports at time t ; FDI_{t-n} -previous FDI inflows at time t up to n and CA_t -current account balance at time, t ., lastly ε -Error term assumed to invariant , α_1 - constant and α_2 - α_7 are the parameters to be estimated.

Results and Discussion

The objective was to investigate the determinants of FDI inflows in Kenya based on time series data. A regression of FDI data against quantifiable variables specified in model 1.2 was run to estimate the parameters. Using the Akaike Information Criterion (AIC), the lag length was obtained as:

Dependent Variable: FDI

Method: Least Squares

Date: 02/14/17 Time: 14:12

Sample (adjusted): 1973 - 2014

Included observations: 42 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037345	0.214377	0.174203	0.8628
FDI(-2)	-0.216081	0.152477	-1.417142	0.1658
GDPGR	0.062175	0.030237	2.056258	0.0477
DTB(-2)	-0.003403	0.020937	-0.162529	0.8719
INF(-2)	0.022130	0.009844	2.248177	0.0314
DEDSGDP	0.034731	0.007874	4.410781	0.0001

DEXGR(-2)	0.006258	0.006740	0.928414	0.3599
CA(-1)	-0.024378	0.015621	-1.560652	0.1281
ECM(-1)	0.284670	0.189745	1.500277	0.1431

R-squared	0.424741	Mean dependent var	0.603212
Adjusted R-squared	0.285284	S.D. dependent var	0.555424
S.E. of regression	0.469561	Akaike info criterion	1.513371
Sum squared resid	7.276080	Schwarz criterion	1.885729
Log likelihood	-22.78079	Hannan-Quinn criter.	1.649855
F-statistic	3.045680	Durbin-Watson stat	1.913934
Prob (F-statistic)	0.011156		

From the table above, signs of the parameters show that there is positive relationship between FDI inflows and annual growth rate of GDP (GDPGR), Inflation rate (INF) lagged two, External debt service as a proportion of GDP (EDSGDP) and Rate of growth of real exports (EXGR) lagged two. On the other hand, there is a negative relationship between, FDI inflows lagged two years, Trade account balance (TB) lagged two years and the current account balance (CA) lagged one year. Based on the magnitude of the parameters, expected value of FDI inflows in Kenya would increase by 0.037345. This could be attributed to the effect of other variables not accounted for in this model.

Previous FDI inflows are also expected to influence current FDI inflows hence the need to include them in the model. From the table above, holding other variables constant, a unit change in FDI inflows in the last two-year period is expected to lower the current FDI inflows by 0.216081 units in the current period. While this goes against economic theory, it is therefore important to consider the significance of the parameters. The p-value 0.1658 obtained is way above 0.05 and hence the parameter is considered insignificant and cannot therefore be used to explain FDI inflows in Kenya.

The effect of annual growth of GDP (GDPGR) on FDI inflows was also estimated. Holding other variables constant, a unit increase in GDPGR would increase FDI inflows by 0.062175. This supports economic theory that growth inspires foreign investors into the economy and this explains why the relationship is positive. An assessment of significance shows that the p-value for the t-statistic is 0.0477 which is lower than 0.05 significance level. The variable was thus significant in explaining FDI inflows over the study period. The null hypothesis of parameter estimate being equal to zero could thus be rejected.

The relationship between FDI inflows and Trade account balance was also explored. From the table above, there exist a negative relationship between FDI inflows and Trade account balance. A unit increase in Trade account balance in the previous two years would decrease the current FDI inflows by 0.003403 on average. Looking at the significance, the p-value was obtained as 0.8719 which is way above the 0.05 significance level and hence it was found to be insignificant. The null hypothesis of the

parameter estimate being equal to zero could thus not be rejected. Trade account balance could therefore not be used to explain FDI inflows.

Analysis of the relationship between FDI inflows and inflation rates was also considered. From the table above, there exist a positive relationship between inflation rates lagged two and FDI inflows. However, a unit increase in inflation rates in the previous two periods would increase current FDI inflows by 0.022130. The probability value of t-statistic is given as 0.0314 which is below 0.05 significance level and therefore, inflation rates are significant in explaining FDI inflows. The null hypothesis of the parameter estimates for inflation being equal to zero could thus be rejected.

The study also examined the relationship between External service debt as a proportion of GDP (EDSGDP) and FDI inflows. The relationship was established to be positive suggesting a unit increase in EDSGDP would increase FDI inflows by 0.034731. The probability value of t-statistic was found to be 0.0001 which is lower than the 0.05 significance level. The null hypothesis that the parameter estimate is equal to zero could thus be rejected and conclude that EDSGDP was significant in explaining FDI inflows in Kenya in the study period.

An analysis of the relationship between Rate of growth of real exports (EXGR) and FDI inflows showed that there exists a positive relationship so that a one-unit increase in EXGR in the previous two periods would increase FDI inflows by 0.006258. The probability value of the t-statistic was found to be 0.3599 which is way above the 0.05 significance level. In this respect, the null hypothesis that the parameter estimate for EXGR is equal to zero could not be rejected and conclude that EXGR is not significant in explaining FDI inflows in Kenya.

The effect of current account balance (CA) and FDI inflows was estimated and established that there exists a negative relationship between CA and FDI inflows such that a one-unit increase in CA in the previous year would lower current FDI inflows by 0.024378. The p-value of the t-statistic was found to be 0.1281 and this is above the 0.05 significance level. The null hypothesis that the parameter estimate for CA is equal to zero could thus not be rejected. It can therefore be concluded that current account balance is insignificant in explaining FDI inflows in Kenya.

The overall test of significance estimated by the F-test is 3.045680 and Prob (F-statistic) is 0.011156 at 5% significance level, the p-value was found to be less than 0.05 and therefore the null hypothesis that all slope coefficients are equal to zero is rejected.

Further, an estimation of model fit by the coefficient of determination R^2 revealed 0.424741 meaning that changes in the macroeconomic variables explain 42.3% of FDI inflows in Kenya. It can therefore be concluded that as pertains other determinants of FDI inflows in Kenya, factors to be considered include annual growth of GDP (GDPGR), Inflation and External service debt as a proportion of GDP.

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