Does corruption hampers inward FDI in South Africa from other African countries? a gravity model analysis

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Abstract

The purpose of this paper is to investigate the relationship between corruption and FDI inflows from other African countries to South Africa. The study uses gravity model and employs panel data econometric technique such as pooled, fixed and random effects model. The results indicate that there is a significant negative relationship between corruption and FDI inflows from other African countries to South Africa. This implies that policy makers in South Africa should implement measures to curb corruption. This will help in attracting FDI inflows from other African countries and encourage the creation of job opportunities.

Keywords: Corruption, FDI inflows, Panel gravity model

JEL Classification: B40, C10, F02, F14

1. Introduction

Globalization has made it possible for most emerging countries to attract and retain foreign direct investment, which links countries to each other. Developing economies such as South Africa perceives FDI (foreign direct investment) inflows as a key to their development. That, is because it is an important external source of finance for investment. Therefore, an increase in FDI can contribute to a sustained economic growth (Obiwona, 2001). The benefits that come with FDI inflows are job creation, increase in capital and productivity. Moreover, a significant increase of FDI may have more benefits for developing economies such as South Africa. These benefits include technology spillovers, improvements in human capital, facilitation of the access to global markets and increase in the country's competitiveness (Bayar and Alakbarov, 2016). Therefore, it is the interest of many emerging economies to understand how corruption may deprive the society prospect of better living standards. Hence, it is important to understand the effect of corruption on inward FDI.

There are several factors or variables that determine FDI inflows. Among others, corruption has been identified as of the main variable that determine FDI inflows. Corruption is known to be an international problem because it is an economic and social issue which affects every country around the globe (Argandona, 2007). The misuse of public resources for private benefit is classified as corruption (Myint, 2000). Hence, the effects of corruption can lead to a reduced amount of investment, stagnant economic growth; discourage prospective job opportunities resulting from FDI inflows and inefficient use of the limited government resources (Hossain, 2018).

There are many developing countries that are challenged or affected by corruption, and South Africa is no exception. According to Transparency International's Corruption Perception Index (TICPI), South Africa was ranked 71 out of180 countries in 2017. This ranking decreased from

64 out of 180 in countries in 2016. This implies that corruption has increased and the effects will be ultimately felt in the economy. This ranking suggests that corruption is a problem in South Africa. Therefore, in order to sustain rapid economic growth, FDI is required and must be prioritised. Hence, there is a general consensus that less or absence of corruption will lead to attracting and retaining much required FDI inflows.

There is an extensive research that has been undertaken on the relationship between corruption and FDI inflows. Several empirical studies (such as Bellos and Subasat, 2012; Al-Sadig, 2009; Alemu, 2012; Samimi and Mafered, 2011), showed that there are two views on the relationship between corruption and FDI inflows. The first view states that corruption affects FDI inflows negatively. The second view states that corruption can have positive effect on FDI inflows. Although, the relationship between corruption and FDI has been studied extensively, empirical studies in South Africa are limited or non-existent.

The purpose of this study is to investigate the relationship between corruption and FDI inflows from other 16 selected African countries to South Africa. The study applies the gravity model to investigate whether corruption hampers inward FDI from other fellow African countries to South Africa. The study also determines the potential of South Africa to attract FDI from other African countries. The rest of the study is structured as follows. Section 2 reviews empirical literature on the relationship between corruption and FDI. Section 3 presents the model and estimation methodology, while section 4 presents empirical results. Section 5 concludes the study.

2. Empirical literature

Internationally, corruption has been classified as a huge phenomenon. It has put constraints such as lack of development and decrease in FDI inflows. This has resulted in consequences of lower growth rates and differences in trade ratios for both developed and developing economies (Argandana 2007). Empirical studies (such as Egger and Winner, 2006; Al Sadig, 2009; Woo, 2010; Bellos and Subasat, 2012; Pupovic, 2012; Saidi, Ochi, and Ghadri, 2012; Castro and Nunes, 2013; Bayar and Alakbarov, 2016; and Craigwell and Wright, 2011) found contrasting results which were either negative or positive on the relationship between corruption and inward FDI.

Al-Sadig (2009) investigated the effects of corruption on FDI inflows with data of 117 developed and developing countries using panel regression over the period from 1984-2004. The study concluded that the corruption hampers FDI inflows. Castro and Nunes (2013) examined a sample of 73 economies during 1998-2008 using panel data. The study demonstrated that economies that have lower corruption are able to attract more FDI inflows.

Pupovic (2012) examined the effect of corruption on foreign direct investment in Montengro. The results showed that corruption had a negative impact on FDI inflows. Rahim and Quazi (2014) investigated the impact of corruption on FDI inflows during the period of 1995-2011. The study used the GLS panel data methodology, which showed a negative relationship between corruption and FDI. This results show the grabbing hand theory is valid in the case of East Asia and South Asia. The findings from Hossain (2016) show that there is a negative interaction between corruption and FDI inflows. The study was based on a sample of 48 economies during the period of 1998 to 2014. The study concluded that a decline in corruption will lead to an increase in FDI inflows. Moreover, in related studies, by Alemu, (2012); Samimi and Mafered, (2011) also found a negative effect between corruption and FDI inflows.

Meanwhile, Bellos and Subasat (2012) applied panel gravity model to investigate the relationship between FDI inflows and corruption in 15 developing countries. The study concluded that corruption had no statistically significant impact on FDI inflows. Another, study that had similar results was conducted by Bayar and Alakbarov (2016) were they examined the relationship between corruption and foreign direct investment inflows in 23 emerging market economies for the period 2002-2014. They applied the Westerlund (2008) cointegration test. Finally, Helmy (2013) discovered that corruption had no significant impact on FDI inflows.

Saidi *et al,* (2013) applied the panel regression to examine the interaction between institutional variables and FDI inflows in 20 developed and developing economies from the period of 1998-2011. The only coefficients in the study that were found to have an impact on FDI inflows were regulatory quality and political stability, while corruption was statistically insignificant. Woo, (2010) and Kersan-Škabić, (2013) conducted similar studies and both found corruption to have a significant positive impact on inward FDI.

These studies indicate the relationship between FDI inflows and corruption is an empirical question. That is because these studies which focus on developed and emerging economies have resulted in mixed results. Empirical studies conducted have not shown the impact of corruption and inward FDI in South Africa. Hence, the effect of corruption on FDI inflows is a central focal point of this study. This study applied the gravity model approach to determine if corruption hampers inward FDI from other African countries to South Africa. Moreover, the gravity model intends to measure the bilateral FDI potential of the source and host country by using the market size and distance between the countries.

3. Empirical model and estimation technique

3.1 Empirical Model

The Gravity model was firstly used in bilateral trade flow by Tinbergen (1962). Economists modified the original Newtonian gravity equation in physics in order to explain trade flows between countries. The theory proclaims that the bigger and the closer the subjects are to each other, the stronger the attraction. Likewise in FDI flows analysis, the gravity model intends to measure the bilateral FDI potential of the source and host country by using the market size and distance between the countries (Bellos and Subasat, 2012). Therefore, in simple terms the gravity model has the following function:

$$FDI_{ij} = A\left(\frac{GDPPF_i\, GDPPD_j}{DIST_{ij}}\right) \qquad (1)$$

Where FDI_{ij} represents the flow of foreign direct investment from country i to country j, $GDPPF_i$ is the income of country i (FDI source) and $GDPPD_j$ is the income for FDI receiver country j (host country South Africa). The income of both countries is measured by their gross domestic product per capita (GDPP). $DIST_{ij}$ is the geographical distance between the source and host country, A is the constant between the two countries. Therefore, following equation (1) which is the gravity model, this paper modelled the impact of corruption on inward FDI in South Africa from selected African countries. Therefore, the study adopts the gravity model from the study of Castro and Nunes (2013). The model is expressed in a log-linear form as follows:

$$LNFDI_{ijt} = \alpha_{ij} + \beta_1 LNGDPPF_{it} + \beta_2 LNGDPPD_{jt} + \beta_3 DIST_{it} + \theta_{ijt} \qquad (2)$$

Equation (2) it can be extended to form an augmented gravity model as follows:

$$LNFDI_{ijt} = \alpha_{ij} + \beta_1 LNGDPPF_{it} + \beta_2 LNGDPPD_{jt} + \beta_3 DIST_{it} + \beta_4 LNOPN_{IJ} + \beta_5 LNSA\_CPI_{ij} + \beta_6 LNPRD_{ij} + \beta_7 POLS_{ij} + \beta_8 CORUP_{ij} + \theta_{ijt} \quad (3)$$

Where $LNFDI_{ijt}$ is the bilateral inward FDI from the selected African country to South African economy. $LNGDPPF_{it}$ represents gross domestic product per capita for source country and $LNGDPPD_{jt}$ is the GDP per capita for a host country. Rationality from economic point suggests that as GDP per capita for a hosting country increases, this attracts inward FDI. This view is based on the idea that host countries with high market size (GDPP) and faster growth allow foreign firms to perceive economic opportunities in a host country. There is an expected positive impact of source GDP per capita in attracting inward FDI. $DIST_{ij}$ is the geographic distance between the source and host country which translates to the cost of transportation and information. Therefore, there is an expected negative relationship between inward FDI and distance. This is because if the countries are far from each other the less attraction of inward FDI. $LNSA\_CPI_{ij}$ measures the price stability of the host country. The expectation is that higher inflation rate in the host country may discourage FDI. That is because investors prefer to invest in a country with less price instability. Therefore, there is an expected negative relationship between host country inflation and inward FDI. $LNPRD_{ij}$ is a measure of productivity in the host country. This variable is included in the analysis to give the sense of efficiency in workers and capital goods. The absence of efficient workers and capital goods this may discourage inward FDI in the host country. Therefore, there is an expected positive relationship between productivity and inward FDI. $POLS_{ij}$ measures the political stability in the host country. The attraction to source of FDI it is also determined by stability in the political sphere of the host country. This stability creates an assumption of institutional and legal frameworks favorable for the investors. There is a positive expected relationship between political stability and

inward FDI in the long run. $CORUP_{ij}$ measures the corruption level of the host country. There is an expectation that if the host country has higher corruption level this will be a cost to the source country, and it may discourage inward FDI.

3.2 Data Description and sources

The study uses annual data and covers the period 2001 to 2012. This period was chosen based on the availability of data. The data consist of selected African countries. These countries are Egypt (EGYP), Liberia (LIB), Angola (ANG), Botswana (BOT), Ghana (GHA), Kenya (KEN), Libya (LIBY), Madagascar (MAD), Malawi (MAL), Mauritius (MAU), Mozambique (MOZ), Namibia (NAM), Nigeria (NIG), Seychelles (SEY), Swaziland (SWA), Uganda (UGA) and South Africa (SA). Table 1 provides a description of data and source.

Table 1 - *Data description of the study*

Variable	Variable description	Source of data
GDPPF	GDP per capita (current US$) (African countries). "GDP per capita is gross domestic product divided by midyear population."	World Bank national accounts data,
GDPPD	GDP per capita (current US$) (South Africa). "GDP per capita is gross domestic product divided by midyear population."	World Bank national accounts data,

DIST	Measures the geographical distance between South Africa and other African countries in kilometres.	http://www.timeandate.com
LNSA_CPI	Consumer price index (2010 = 100). Consumer price index reflects changes in the cost to the average consumer of acquiring a basket of goods and services.	International Monetary Fund, International Financial Statistics and data files.
SA_CORUP	"Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption."	www.govindicators.org.
POLS	Political Stability and Absence of Violence/Terrorism: Estimate	www.govindicators.org.
PROD	Measures the efficiency of a country with which inputs are used in an	International Labour Organization (ILO)

	economy to produce goods and services.	

3.3 Estimation technique

The study estimate equation (2) and (3) with the use of panel data models such as pooled, random and fixed regression models. According Bellos and Subasat (2012) panel data involves a much larger degree of freedom, which increases the accuracy of regression analysis. It also has a strong capacity to capture complex social behavior than other cross-section and time series data. However, prior to analysis data technique, the study investigate panel unit root using the conventional test of Levin, Lin and Chu (LLC) unit root test and Breitung unit root. The test of LLC was developed by Levin, Lin and Chu (2002) and Breitung unit root by Breitung (2000). Both tests assume that there is a common unit root process in all cross-sections. The LLC test assumes that when time dimension T is relatively large it enables the LLC to have higher power. It also, take into account cross-sectional independence. The Breitung unit root has the assumption that no kernel computations will be required.

4. Empirical results

Table 2 present the results of unit root for both LLC and Breitung. All the individual series were tested and both tests reveals that all the variables are stationary in levels. Therefore, they are implied to be integrated of order zero.

Table 2 - *Panel unit root test*

Variables	Intercept & trend		Intercept & trend	
Unit root test	LLC – levels	LLC-first difference	Breitung – levels	Breitung – first difference
GDPPF	-2.09057 (0.0183)**	-9.11509 (0.0000)***	7.57252 (0.0000)***	9.86238 (0.0000)***
GDPPD	-18.6599 (0.0000)***	-6.93537 (0.0000)***	6.56804 (0.0000)***	41.4816 (0.0000)***
LNSA_CPI	-10.3618 (0.0000)***	-3.81365 (0.0001)***	3.68385 (0.0001)***	1.95858 (0.0251)**
SA_CORUP	-17.0197 (0.0000)***	-27.3116 (0.0000)***	3.94679 (0.0000)***	41.4816 (0.0000)***
POLS	-3.56459 (0.0002)***	-11.7435 (0.0000)***	5.64484 (0.0000)***	41.4816 (0.0000)***
PROD	-13.8544 (0.0000)***	-16.0553 (0.0000)***	41.4816 (0.0000)***	32.4332 (0.0000)***

Notes: */10% significance level, **/5% significance level, ***/1% significance level

Table 3 - *Panel regression results*

Dependent variable: Inflow FDI

Independent variables	Pooled regression	Augmented Pooled regression	Fixed effect regression	Random effect regression
CONSTANT	-8.1529	-10.8738	2.0036	-1.7011
	(-5.9968)***	(-0.2160)	(0.1275)	(-0.1085)
GDPPF	0.4230	0.4252	-0.4541	-0.1574
	(8.7505)***	(8.7451)***	(-3.7141)***	(-1.5754)
GDPPD	1.2136	1.9182	1.9882	1.9646
	(7.7798)***	(2.0824)***	(6.9672)***	(6.8857)***
DIST	-0.0003	-0.0003		-0.0003
	(-10.9097)***	(-10.8581)***		(-2.7589)***
SA_CPI		-1.9083	-0.6514	-1.4637
		(-1.2047)	(-1.9941)	(-2.9497)***
SA_CORUP		-0.7650	-1.2372	-0.6898
		(-0.7259)	(-2.4788)***	(-2.1122)***
SA_POLS		-0.6617	-0.4116	-0.4960
		(-0.9750)	(-1.9330)	(-2.3397)***
PROD		0.5271	-0.5667	-0.1976
		(0.0896)	(-0.3103)	(-0.1083)
R-squared	0.5718	0.5766	0.9625	0.7927
Adjusted R-squared	0.5650	0.5605	0.9578	0.7848

Notes: */10% significance level, **/5% significance level, ***/1% significance level

Table 3 presents estimation results. Pooled results indicate that there is a positive effect foreign income and domestic income on FDI inflows. Furthermore, pooled results show that the distance, corruption, domestic inflation and political stability have a negative impact on inflow FDI in South Africa. The use of pooled model has been advocated in the literature that it should be subjected to a poolability test. The study uses the Wald F-test to test the null hypothesis that homogeneity exists in selected African countries. Table 4 provide the results for homogeneity in countries under study. The test results indicate that the p-value of the F-statistics is 0.0000. Therefore, this implies that the study reject the null hypothesis of homogeneity and conclude that there is heterogeneity in countries sample.

Table 4 - *Wald test results*

Test statistic	Value	Df	Probability
F-statistic	755.7627	(8, 184)	0.0000***
Chi-square	6046.101	8	0.0000***

Notes: */10% significance level, **/5% significance level, ***/1% significance level

Therefore, the study confirmed that heterogeneity exists among countries included in the study. The next step is to estimate parameters using the appropriate estimator. The study estimated models that introduce heterogeneity in the model to estimate equation (3). These are fixed and random effect models. Although, both models assumes heterogeneity in the cross-sections, it is important to determine which of them is appropriate. The Haussman test statistic is used for this purpose. . The results of Hausman test statistic showed fixed effects model is appropriate.

In addition, it is important to mention that this study used selected African countries, based on the availability of data. That means the cross-sections are pre-determined. This makes fixed effect the appropriate model. Hence, the interpretation will focus on the results of fixed effects model as presented in column 4 of Table 3. The results of fixed effect model indicate that there is a negative relationship between foreign income and inflow FDI in South Africa. This result implies that as foreign income increase this reduces the inflow of FDI in South Africa. This findings could however, make economic sense that as foreign African economies experience growth may be reluctant to seek a new avenue to invest. A 1% increase in foreign income will discourage inflow FDI by 0.45% in South African.. The study shows that a 1% increase in domestic income will lead to 1.98% in attracting FDI. The estimates reveal that inflows FDI in South Africa is attracted by market size in terms of domestic income. This is consistent with economic theory. It is therefore, assumed that as the economy of the host country (South Africa) grows phenomenally, it will attract investors from other African countries with a hope that their capital will reap the profit in future.

In addition, the study finds that there is a negative and significant relationship between corruption in South Africa and FDI inflows. A 1% increase in corruption will lead to 1.23% decrease on FDI inflows. This is consistent with economic theory, which predict that corruption discourage attraction of FDI. South African inflation plays a critical role in determining inflows FDI in South Africa from Africa. The results indicate that there is negative and significant relationship between inflows FDI and inflation in South Africa. A 1% increase in inflation will lead to 0.65% decrease in FDI inflows. This results make a rational economic sense that high inflationary state in South Africa is a concern in attracting inflows FDI. There is a negative and significant relationship between political stability and inflows FDI in South Africa. This results

are not consistent with economic theory. However, this results may suggest that political sphere in South Africa have a detrimental effect in attracting inflow FDI. Lastly, the study shows that there is a negative and insignificant relationship between productivity and inflows FDI in South Africa.

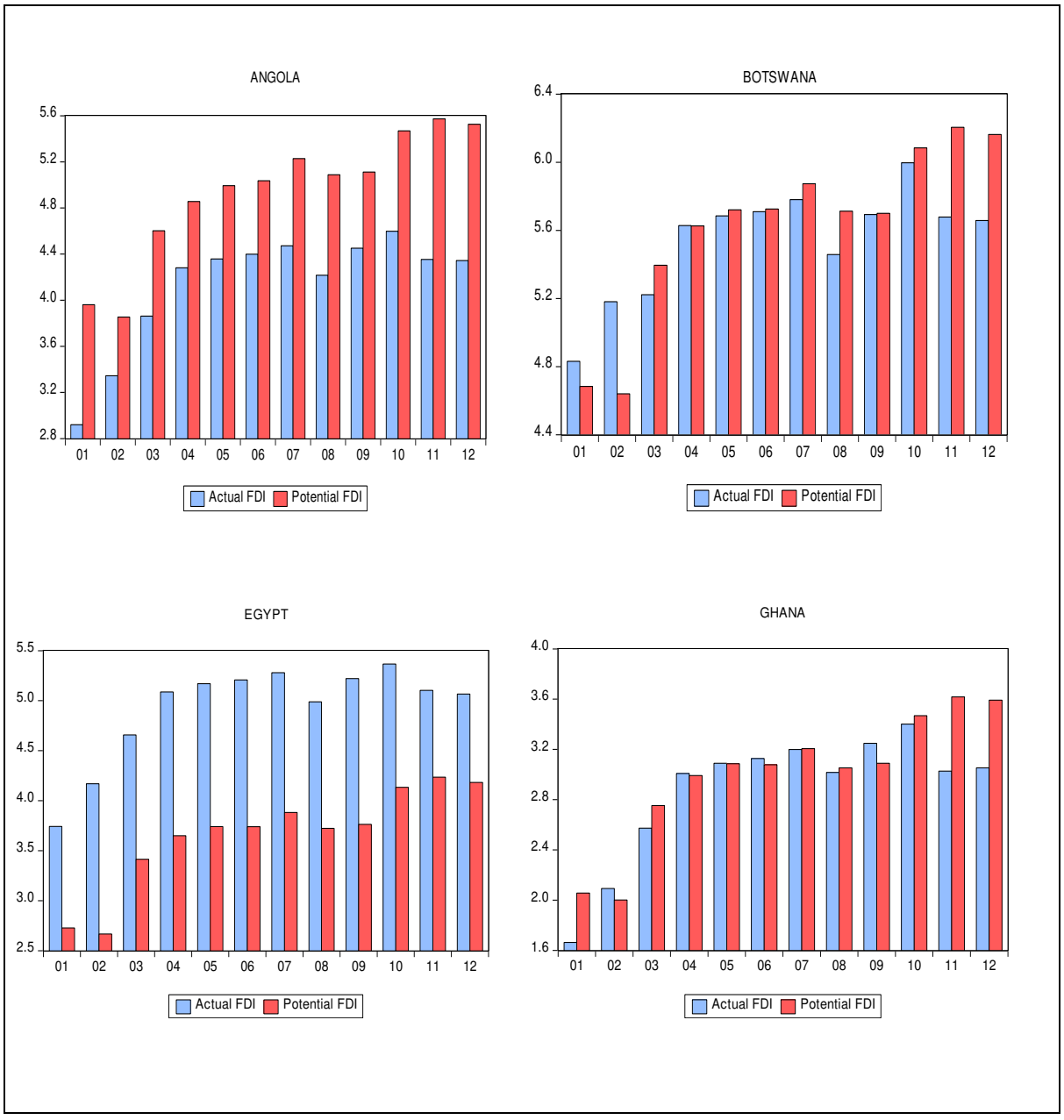
After estimating the fixed effect model, the following is used to estimate the country specific effects. The results are presented in Table 5. The results indicate that there are some unique (country specific) characteristics that can encourage inflows FDI in countries such as Egypt, Liberia, Botswana, Mauritius, Namibia and Swaziland. On the other hand, there are country specific characteristics that discourage FDI inflows from Angola, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Seychelles and Uganda.

Table 5 – *Country-specific fixed effect results*

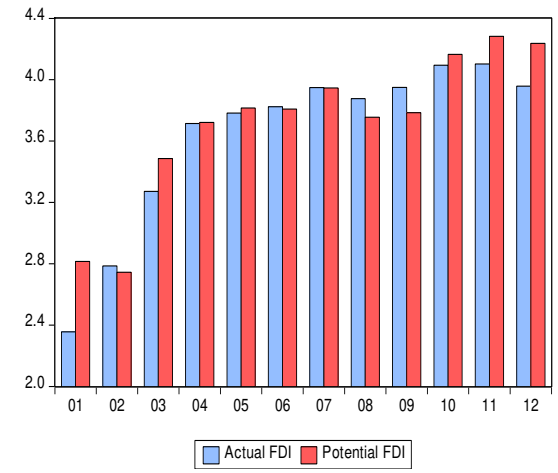
Countries	Fixed Effects (Cross)
EGYPT	0.6243
LIBYA	0.6083
ANGOLA	-0.0765
BOTSWANA	1.6741
GHANA	-1.7233
KENYA	-1.0793
LIBERIA	0.6083
MADAGASCAR	-2.2434
MALAWI	-0.4414

MAURITIUS	2.1589
MOZAMBIQUE	-0.5707
NAMIBIA	1.8463
NIGERIA	-0.8227
SEYCHELLES	-0.2681
SWAZILAND	1.7751
UGANDA	-2.0697

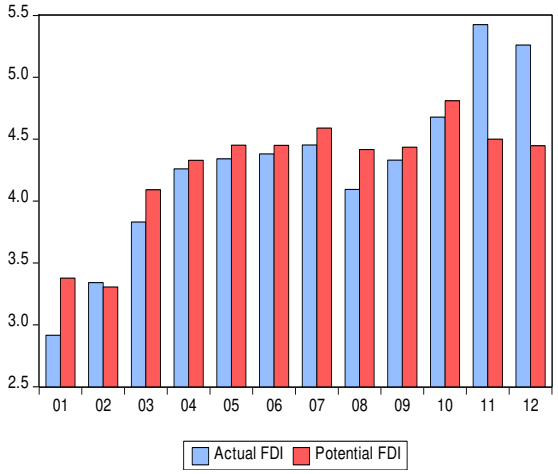
FIGURE 1 - *Potential FDI inflows to South Africa*



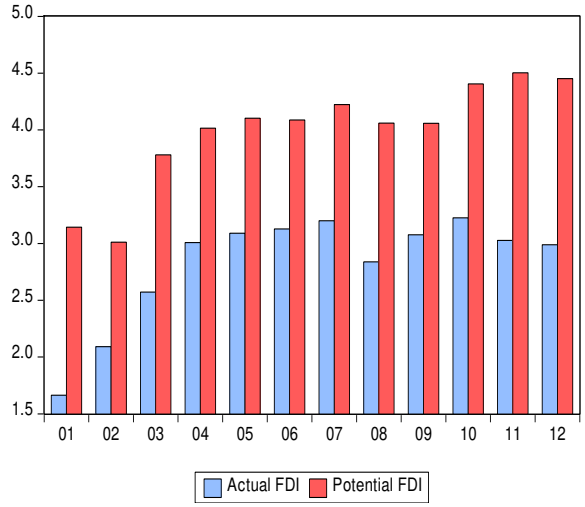
KENYA



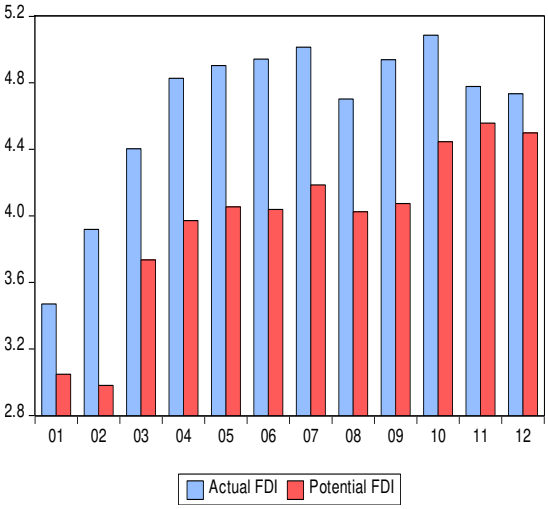
LIBERIA



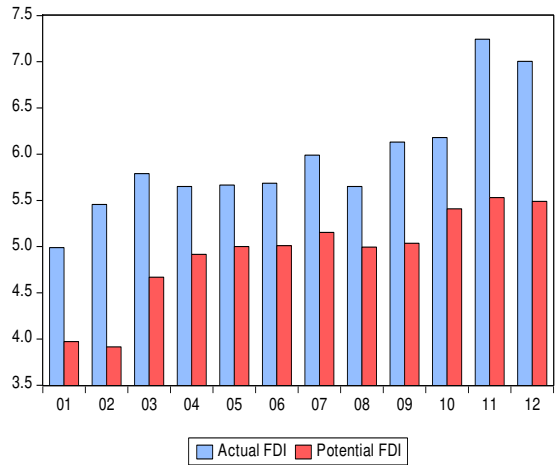
MADAGASCAR



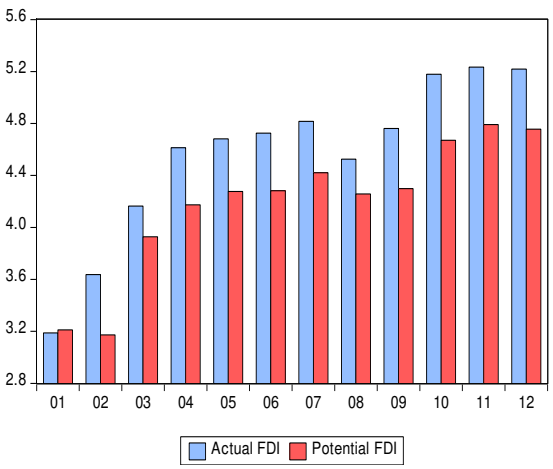
MALAWI

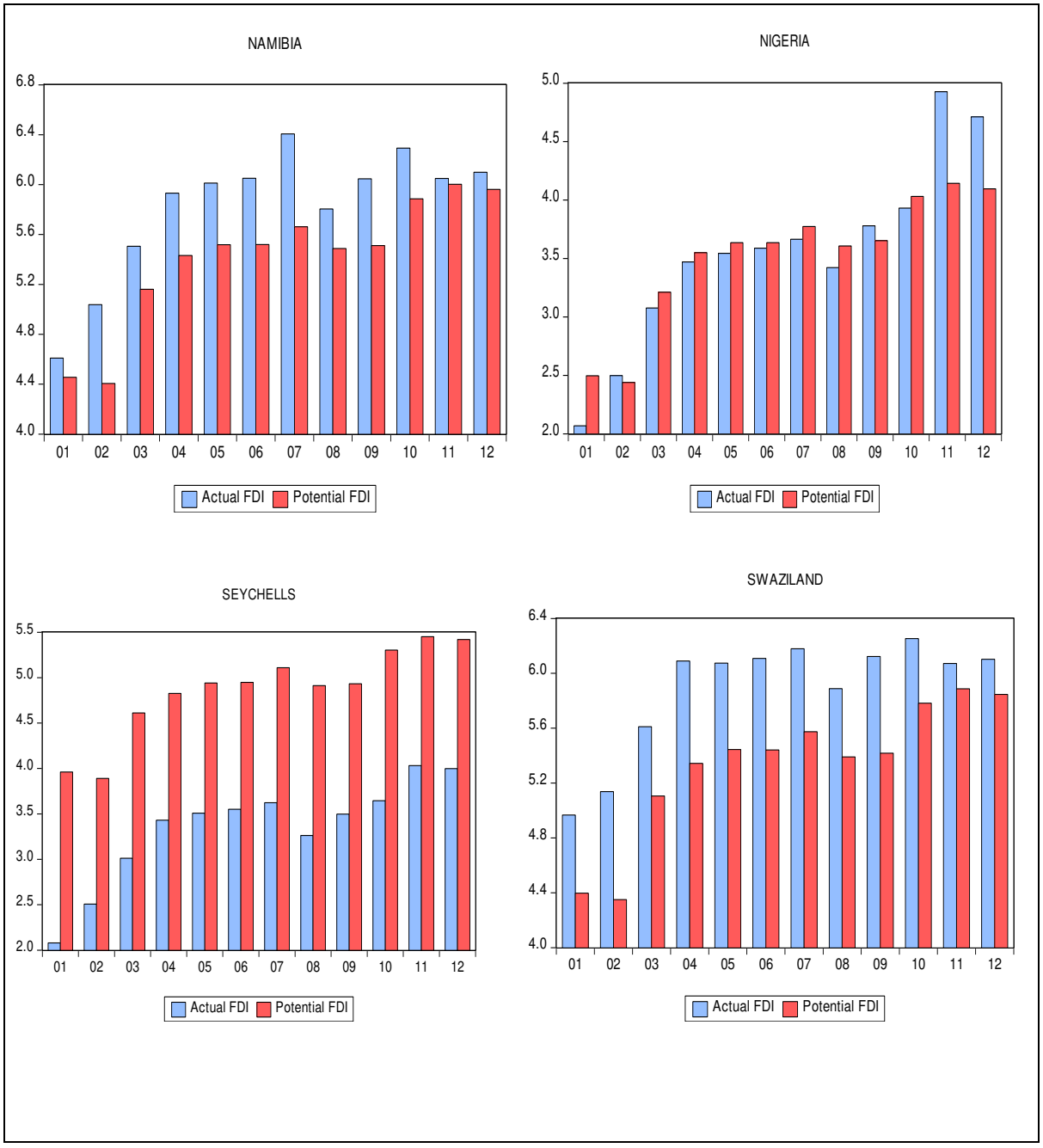


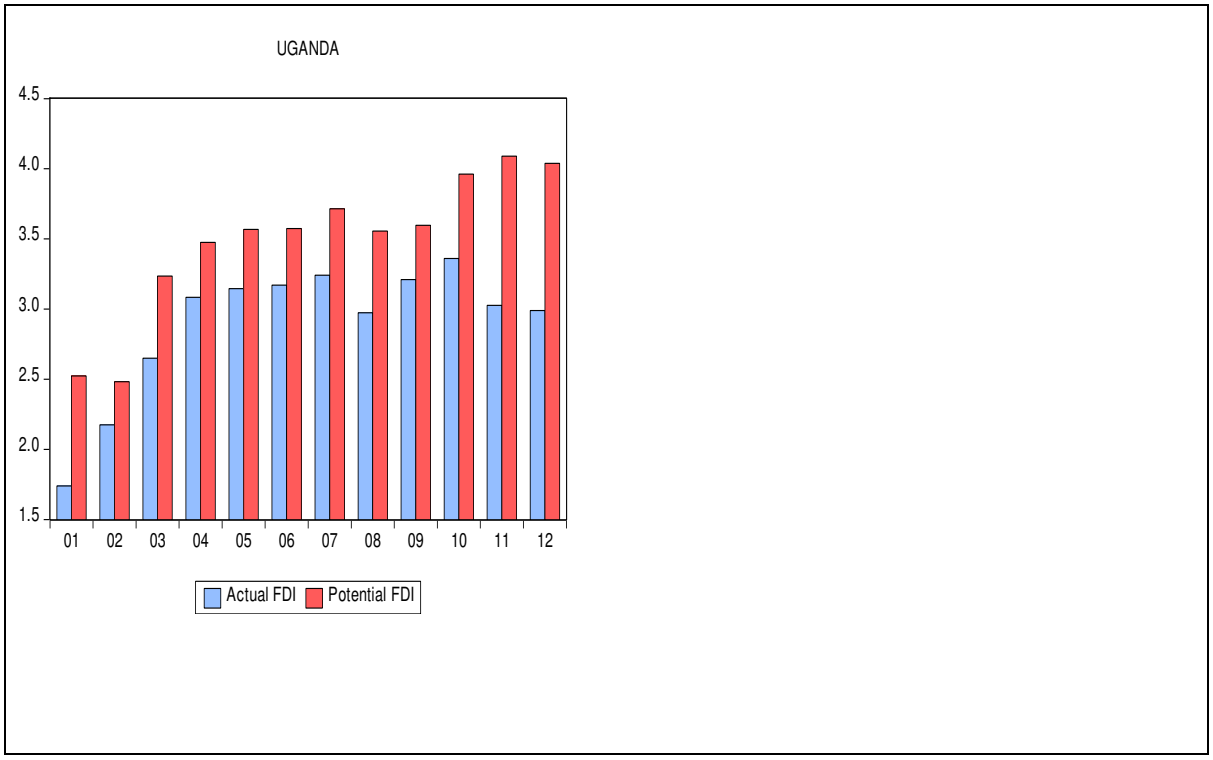
MAURITIUS



MOZAMBIQUE




NAMIBIA
6.8
6.4
6.0
5.6
5.2
4.8
4.4
4.0
01 02 03 04 05 06 07 08 09 10 11 12
Actual FDI
Potential FDI
NIGERIA
5.0
4.5
4.0
3.5
3.0
2.5
2.0
01 02 03 04 05 06 07 08 09 10 11 12
Actual FDI
Potential FDI
SEYCHELLS
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
01 02 03 04 05 06 07 08 09 10 11 12
Actual FDI
Potential FDI
SWAZILAND
6.4
6.0
5.6
5.2
4.8
4.4
4.0
01 02 03 04 05 06 07 08 09 10 11 12
Actual FDI
Potential FDI



The results of Equation (3) as presented in Table 3 were simulated in order to determine if there are countries that have unexploited FDI potential. Figure 1 presents the results for South Africa's potential for attracting FDI inflows from other African countries. It shows that South Africa has the potential to attract inflows FDI from countries such as Egypt, Madagascar, Seychelles and Uganda. Furthermore, the study indicates that South Africa has extremely explored the potential to attract FDI inflows from Angola, Malawi, Mauritius, Mozambique, Namibia and Swaziland.

5. Conclusion

The purpose of this study was to examine the relationship between corruption and FDI inflows in South Africa. The study also investigated whether there are countries that has unexploited FDI potential. The study used a sample of 16 countries, which are Angola, Botswana, Egypt,

Ghana, Kenya, Liberia, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Nigeria, Seychelles, Swaziland and Uganda. The selection of this countries was based on the availability of data. The study used the gravity model to examine the inflows FDI in South Africa from other African countries. The technique is estimated within panel data analysis using pooled regression model and fixed effect model. The results from fixed effect model shows that there is a significant negative relationship between corruption and FDI inflows in South African. The result implies that corruption is a serious detrimental factor in determining FDI inflows in South Africa. The findings are consistent with economic theory and literature. This results are also consistent with the work of Amarandei (2013).

The study further examined the fixed specific effects that may attract or discourage inflows FDI in South Africa. Countries such as Angola, Ghana, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Seychelles and Uganda have some effects that hamper the attraction of FDI inflows. Furthermore, the study explored the potential of South Africa to attract FDI inflows and identified that there is more potential in countries such as Egypt, Madagascar, Seychelles and Uganda. Therefore, it is prudent that South African policy makers ensure that they reduce any corruption in the country. However, the failure to combat corruption may result in the loss of FDI inflows which may bring in prospects of better job opportunities and technological transfers.

References

Al Sadig, A. (2009), "The Effects of Corruption on FDI Inflows", *CATO Journal*, 29(2), 267-294.

Alemu, A. M. (2012), "Effects of Corruption on FDI Inflow in Asian Economies", *Seoul Journal of Economics*, 25(4), 387-412.

Amarandei, C.M. (2013), "Corruption and Foreign Direct Investment. Evidence from Central and Eastern European States", CES Working Papers, Vol. 5(3), 311-322.

Argandona, R. A. (2007), "The United Nations Convention against Corruption and Its Impact on International Companies", *Journal of Business Ethics*, 74(4), 481-496.

Bayar Y. and N. Alakbarov (2016), "Corruption and Foreign Direct Investment Inflows in Emerging Market Economies", *ECOFORUM*, 5(1), 305-308.

Bellos, S. and T. Subasat (2012), "Corruption and Foreign Direct Investment: A Panel Gravity Model Approach", *Bulletin of Economic Research,* 64(4), 565–574.

Breitung, J. (2000), The Local Power of Some Unit Root Tests for Panel Data, in: B. Baltagi (ed.), "Advances in Econometrics, Vol. 15: Nonstationary Panels, Panel Cointegration, and Dynamic Panels", JAI Press: Amsterdam.

Castro, C. and P. Nunes (2013), "Does corruption inhibit foreign direct investment?", *Politica/Revista de Ciencia Politica*. 51(1), 61-83.

Craigwell, R. and A. Wright (2007), "Foreign Direct Investment and Corruption in Developing Countries: Evidence from Linear and Non-linear Panel Granger Causality Tests", *Economics Bulletin.* 31(3), 2272-2283.

Egger, P. and H. Winner (2006), "How Corruption Influences Foreign Direct Investment: A Panel Data Study", *Economic Development and Cultural Change*, 54(2), 459-486.

Helmy, H.E. (2013), "The Impact of Corruption on FDI: Is MENA an Exception? *International Review of Applied Economics*. 27(4):491-514.

Hossain, S. (2016), "Foreign Direct Investment (FDI) and Corruption: Is it a Major Hindrance for Encouraging Inward FDI?" *Africa Journal of Business Management*, 10(10), 256-269.

Kersan-Škabić, I. (2013), "Institutional Development as a Determinant of FDI Attractiveness in Southeast Europe", *Drustvena Istrazivanja*, 22(2), 215-235.

Levin, A., C.F. Lin and C. Chu (2002), "Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties", *Journal of Econometrics*, 108, 1–24.

Myint, U. (2000), "Corruption: Causes, Consequences and Cures", *Asia-Pacific Development*, 7(2), 33-58.

Pupovic, E. (2012), "Corruption's Effect on Foreign Direct Investment - The case of Montenegro", *Journal of Economics and Business*, 10(2), 13-28.

Rahim M. and R.M. Quazi (2014), "Corruption and Foreign Direct Investment in East Asia and South Asia: An Econometric Study", *International Journal of Economics and Financial Issues,* 4(2), 231-242.

Saidi, Y., A. Ochi and H. Ghadri (2012), "Governance and FDI Attractiveness: Some Evidence from Developing and Developed Countries", *Global Journal of Management and Business Research Finance,* 13(6), 14-24.

Samimi, Y. and M. Monfared (2011), "Corruption and FDI in OIC Countries", *Information Management and Business Review,* 2(3), 106-111.

Tinbergen, J. (1962), *Shaping the World Economy: Suggestions for an International Economic Policy*, New York: Twentieth Century Fund. The first use of a gravity model to analyze international trade flows.

Westerlund, J. (2008), "Panel Cointegration Tests of the Fisher Effect", *Journal of Applied Econometrics*, 23(2), 193-223.

Woo, J.Y. (2010), "The Impact of Corruption on a Country's FDI attractiveness; A Panel Data Analysis, 1984-2004", *Journal of International Area Studies,* 17(2), 71-91.