INVESTIGATING THE DETERMINANTS OF FOREIGN DIRECT INVESTMENTS IN NAMIBIA

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ABSTRACT

Foreign direct investments are a challenge to attract, good to host and worse to see leaving. It is in line with this view that an investigation of the determinants of foreign direct investment (FDI) in Namibia was launched through this study. Data points used are for 1984 to 2014. The unit root, cointegration test and the bounds testing approach based on the Autoregressive Distributed Lag framework were all employed. As a consequence to the outcome, the Error Correction Model became necessary and was used. The short run and long run scenarios were captured and yielded that in the short run, a depreciation of the Namibian dollar was found to positively impact on the receipts of FDI. Inflation and GDP growth were found to impact positively on FDI in the short and long run scenarios. Though statistically insignificant, population growth was found to be a positive driver while exchange rate was negatively related to FDI in a short-run. An existence of a long run relationship among the variables was also confirmed. As for the long run, population growth was negatively impacting on the attraction of FDI. With the Namibian dollar pegged to the South African Rand at 1:1, inflation was seen to have a positive impact on FDI in both periods. A positive sign for inflation is not necessarily a doubtful finding in the short-run period, considering that the opposite of it can be serious on the economy. Therefore, the government should use inflation targeting policies and other macroeconomic measures that are suitable to the needs of the country. Appropriate fiscal and monetary measures are needed for stimulating economic growth at a rate that surpasses the rate of population growth, because due to the resultant effect of a high population on FDI in the long run and subsequently on economic growth.

Key words: FDI, bounds testing approach, stationarity.

INTRODUCTION

Developing countries in particular, are striving to grow their economies. One of the ways to do that is by attracting a substantial number of foreign direct investments (FDI). This notion is based on reported evidence by other authors that the benefits of transferring technology, international cooperation, and employment creation are better enhanced through attracting FDI (OECD, 2008 & UNCTAD, 2014).

An increasing amount of foreign direct investments has been observed flooding into developing markets. In Africa however, the inflow of FDI has remained flat (UNCTAD, 2015). Because of its contribution to the economy, many African governments lately have been committing stimulus at what they believe may attract foreign direct investors. Asiedu (2002) argues that each country has its own attractions. Therefore what may drive FDI in one region may not drive it in another.

In Namibia, foreign direct investment plays an important role in the economy. Since 1990, significant efforts have been made by the government at attracting FDI. Such initiatives include, among others the Foreign Investment Act and the Export Processing Zone (EPZ) which is a tax and duty free zone (Bank of Namibia, 2006; Nghifenwa, 2009 & Haiyambo, 2015).
As a result, FDI inflows as share of GDP over the past 24 years grew at 9.0 percent in 2008 (highest). Since 2008, the country has been experiencing substantial declines in its inflows. For instance in 2009 and 2011 only 6 percent was recorded compared to period of 2008. That could have been catalyzed by the global economic crisis that was experienced during that era. In 2012 Namibia attracted FDI amounting to 8 percent as share of its GDP, but in 2013 – 2014 it saw its inflows declining far again (Own calculation based on World Bank data). Moreover, reports from Bank of Namibia (2006) and AFDB and OECD (2008) show that more than 60 percent of major FDI projects in Namibia are mainly concentrated in the mining sector. In addition, a study by Haiyambo (2013) highlighted that majority of foreign direct investors in the country are driven by the potential of mineral resources the country possess.

Despite government efforts in attracting sufficient FDI in all sectors of the economy, it has been observed that majority of FDI inflows are concentrated in the mining sector. The general trend show that FDI inflow has been declining and that is worrisome when left without empirical tests on ascertaining the causes and possible solutions as it is at the moment in Namibia. It will

**LITERATURE REVIEW**

**Theoretical review**

OECD (2008) and IMF (2009) define FDI as the category of international investment made by a resident of one country in an enterprise based in another country with the objective of building a ‘lasting interest’. A direct investor is then defined as an individual, incorporated or unincorporated public or private enterprises; associated groups or government agencies; trusts or other organization that own direct investment enterprises in a country other than that of the direct investor.

Two main type of FDI can be distinguished namely: Horizontal FDI and Vertical FDI. Horizontal FDI is a type of FDI where a foreign firm duplicates its activities in other countries, that is, the foreign firm produces goods and services generally the same to those it produces at home. The motive may be that of circumventing trade barriers. On the other hand, vertical FDI is one where multinational enterprises (MNEs) separate production by outsourcing some production stage abroad. This is because it becomes profitable for MNEs when input costs (for example labor cost) vary across countries (Protsenko, 2004).

In addition, as can be seen from figure 1 above, vertical FDI is divided into two types: backward FDI and Forward FDI. Backward FDI is one where the firm institutes its own suppliers of intermediate inputs which deliver the inputs to the mother firm. Contrary to backward FDI, Forward FDI is one where the firm builds up a foreign affiliate which draws inputs from the mother company for its own production.

**Product Cycle Theory (PCT)**

Vernon (1966), Hymer (1976) and Dunning (1993) developed some theories that explain the behavior of multinational enterprises (MNEs). The Product Cycle Theory came into being in 1966 by Vernon and provides useful insights on analyzing FDI. In theory, a product has three stages: new-product stage, maturity-product stage and standardized-product stage. Finally, it is in the standard-product stage that the product and its production process are well known. Vernon believed that production shift to developing countries, as imitator of the product,
while developed countries are busy with new innovations. Ultimately while busy with innovations, developed countries may start importing the product from developing countries (Appleyard, Fied & Cobb, 2008).

Hymer FDI Theory

Hymer, on his analyses of what cause foreign investment, he makes a comparison between direct investment and portfolio investment and how portfolio investment can explain direct investment through the interest rate theory. Hymer’s view is that the interest rate theory of portfolio investment was not adequate to explain direct investment as it did not explain the control of assets. According to Hymer (1976), direct investment which is the movement of capital involves both ownership and control. Hymer offered two main reasons for direct investment: one which has to do with cautious use of assets for the safety of investments and the other main reason which is international operations i.e. the desire to control production by removing competition and have access to particular skills, capital or technology.

Eclectic Paradigm Theory

The eclectic paradigm or also referred to as the OLI framework was developed by professor of international business John Harry Dunning. The eclectic paradigm provides a framework for analyzing the determinants of foreign direct investment and activities undertaken by MNEs. According to Dunning (2000), foreign production of MNEs can be explained through three sub-paradigms or variables: The first one is concerned with the competitive edge of those firms wanting to engage in FDI. Holding other factors constant, the greater their competitive advantages relative to other firms in the host country, the more likely they will engage in foreign production. Ownership advantages include: ownership of patents, natural resources, trademarks, technology, large economic of scale etc. (Dunning, 2000, p.164).

Furthermore, in line with above variables, studies by Dunning and Lundan (as cited in Gichamo, 2012) identified four main motives explaining foreign production by MNEs: Market seeking; Resource seeking, Efficiency seeking and Strategic asset seeking. Empirical Review

Empirical literature

Oba and Onuoha (2013), in their paper on “The Determinants of Foreign Direct Investments (FDIs) and the Nigerian Economy” analyzed the determinants of FDI inflows in Nigeria during 2001 - 2010. Their main findings from OLS estimation were that infrastructure development which was measured by the transport and communication sector was a significant determinant of FDI in the country. However Real GDP and Openness to trade were not significant determinants of FDI. This finding was a surprise because the expectation was that economic growth and high degree of trade would lead to high FDI inflows. The conclusion was that most of FDI inflows were attracted by the potential of oil reserves the country had and not economic growth. Hence, this result is an indication that the availability of natural resources plays an important role in attracting FDI and that factors that may affect FDI in some countries may not have any effect in others. However, the results may not be fully accurate since a small sample size was used by the authors.

Abubakar and Abdullahi (2013) used a sample from 1981-2010 and employed a series of econometric techniques: co-integration test and Granger causality to analyze the influence of
natural resources, market size, openness and inflation on FDI in Nigeria. The results from Johansen co-integration were in accordance with the results of the study by Oba and Onuoha (2013) suggesting that market size (GDP), openness and inflation do not attract FDI in the long run. However, the results from Granger causality suggested that market size (GDP) and inflation positively impacted FDI in the short run in Nigeria.

Many studies have ignored the importance of a country population in attracting foreign direct investment. Azizi and Makkawi (2012) took a different path by trying to analyze the relationship between foreign direct investment and a country population. Using a sample of 56 countries and employing Pearson correlation coefficients they found that there was a positive relationship between population and FDI. Thus, a higher population may represent a higher spending power and greater market of appetite to be satisfied. However, they argued that the country population alone may have difficulties at attracting FDI inflows if there is lack or insufficient skilled workers. Besides educated workforce, low wages also becomes an important aspect to consider along with skills. This explains why China (the most populated country worldwide) has been one of the top receivers of FDI.

Çevis and Çamurdan (2007) used panel data on 17 developing countries and with the time series for the period 1989Q1-2006Q4. They aimed at identifying the main determinants of FDI inflows to those countries. In their results from the Generalized Least Squares found that apart from the significance of real GDP, interest rate, trade openness and infrastructure development, the previous year’s FDI record is also an important determinant of FDI inflows for consideration. Previous year FDI is viewed as a stimulus to MNEs about the presence of other foreign firms in the country. The principle is that if other FDIs are there it means it is attractive.

Regarding the effects of exchange rate movements on FDI, Jin and Zang (2013) analyzed how the exchange rate of RMB impacted on inflows of FDI in China during the period of 1997 to 2012. With the use of an appropriate statistical model, they found that in the long run a proper appreciation of RMB promotes FDI in China. However, in the short term an appreciation of RMB negatively impacts China’s volume of trade and consequently its FDI inflows. These results are an indication that a depreciated currency in the long run is not desired by foreign investors whereas in the short run a stable currency is preferred.

Asiedu (2002) empirically examined whether the factors that affect FDI inflows in developing countries also affect the countries in the Sub-Saharan (SSA) region. By employing cross-section and panel regression analysis the result suggested that the high rate of return and better infrastructure positively affect FDI in non-SSA countries but not in SSA countries. However, openness to trade affects positively FDI to both SSA and non-SSA countries. The results provided an indication that policies that are successful in one region may not be successful in another.

Finally, a paper by Mottaleb and Kalirajan (2010) examined the determinants of FDI in 68 developing countries. On finding out why some countries were more successful at attracting FDI than others, Mottaleb and Kalirajan employed a random effect generalized least square estimation process and discovered that complemented with a high GDP growth rate and high openness to trade, countries with more business friendly environments attract more FDI inflows.
In Namibia, Nghifenwa (2009) employed an OLS method combined with an Error Correction Model to estimate the factors that have either encouraged or damped investment in Namibia. A positive relationship was found with real GDP, real domestic saving and the post-independence investments incentives. However, in the long run only real GDP and real domestic saving were significant determinants of investment.

Furthermore, Haiyambo (2013) examined the relationship between tax incentives and foreign direct investment in Namibia. Pearson correlation coefficients and Chi-square test were used in examining that relationship. The findings were that tax incentivized the attraction of FDI in the country during the period examined. He also found that the availability of natural resources was a key driver of FDI in the country confirming the same relationship with relevant tests.

METHODOLOGY

Data sources

This study uses secondary data limited to 30 observations from the period of 1984-2014. Data used in this study came from various sources, namely on FDI, population, and real GDP growth rate, the source is the World Bank’s development indicators; inflation from IMF’s international financial statistics and Bank of Namibia annual reports. Whereas, exchange rate alone, as measure of macroeconomic stability, was obtained from the World Bank’s development indicators. With regards to the exchange rate, given that the Namibian dollar (NAD) is pegged to the South African Rand (ZAR) at 1 for 1, the use of South Africa’s nominal official exchange rate became inevitable.

Model Specification

Based on the selected theoretical and empirical review, this study adopts a multiple regression model to estimate the determinants of foreign direct investment in Namibia. The model is specified as:

$$ FDI_t = B_0 + B_1 GDP_t + B_2 Infl_t + B_3 Exchr_t + B_4 Pop_t + \mu_t $$

$B_0$ is the intercept of the model and $B_1 - B_4$ are the other unknown parameters of the model to be estimated. $\mu_t$ is the stochastic disturbance error term and $t$ is the time subscript.

Where GDP is Growth rate, Infl is inflation rate, Exchr is the official exchange rate at 1U.S = 12 NAD and the Pop for population growth.

Unit Root Testing

Since the data is time-series in nature, it is important to confirm its stationarity. According to Gujarati and Sangeetha (2007) if $\rho$ is equal to 1, then there is a case for non-stationarity. Such became possible by means of conducting an Augmented Dickey Fuller test (ADF).

Cointegration Test

To determine if there is a long run relationship between the variables, cointegration test was applied. As pointed out in Gujarati and Sangeetha (2007) the importance of co-integration test can be seen also as a pre-test to avoid spurious results. In this paper, the bounds testing approach to cointegration is used. This techniques is very useful because the testing for unit root is not a must since cointegration can be examined regardless of whether the variables are
I (0) or I (1) but not I (2), the usual OLS method can be applied in the estimation process, both long run and short run relationship can be estimated at the same time, and this test is useful for small sample sizes unlike other test such as the Johansen co-integration test (Narayan, 2004). Following Pesaran, Shin and Smith (2001) as adopted by Narayan (2004) and Mohammadvandnahidi, Jaberi and Norousi (2012) to start the bounds testing approach, represented in an autoregressive distributed lag form (ARDL), known as unrestricted error correction model (UECM):

\[
egin{align*}
\Delta FDI_t &= \alpha_0 + B_1 \Delta FDI_{t-1} + B_2 GDP_{t-1} + B_3 \ln P_{t-1} + B_4 \text{Exchr}_{t-1} + B_5 \text{Pop}_{t-1} + \\
&\quad \sum_{i=1}^{n} \gamma_1 \Delta FDI_{t-i} + \sum_{i=0}^{n} \gamma_2 \Delta GDP_{t-i} + \sum_{i=0}^{n} \gamma_3 \Delta \ln P_{t-i} + \sum_{i=0}^{n} \gamma_4 \Delta \text{Exchr}_{t-i} + \\
&\quad \sum_{i=0}^{n} \gamma_5 \Delta \text{Pop}_{t-i} + \epsilon_t
\end{align*}
\]

From equation above, \(\Delta\) is the first difference operator; \(B_i\) are the long run coefficients; \(\gamma_i\) are the short run coefficients; \(\alpha_0\) is the intercept and \(\epsilon_t\) is the white noise error term and other variables are defined.

To conduct the bounds testing approach, first OLS is applied in the equation to estimate if there is a long run relationship among the variables by mean of the F-test for the joint significance of the lagged variables in the model. In this way the null and alternative hypothesis are given as:

- \(H_0: B_1 = B_2 = B_3 = B_4 = B_5 = 0\) (No cointegration)
- \(H_a: B_1 \neq B_2 \neq B_3 \neq B_4 = B_5 \neq 0\) (There is cointegration)

Given the computed F-statistic, this is then compared with the critical bound values provided by Pesaran et al. (2001). If the computed F-statistic lies below the lower critical bound value the null hypothesis is accepted. On the contrary, if the computed F-statistic lies above the upper critical bound value the null hypothesis is rejected. However, the critical values provided by Pesaran et al. (2001) are for large samples of 500 and 1000 observations and 20 000 and 40 000 replications respectively (Narayan, 2004). As a result, given that this study uses a small sample (30 observations); the bound critical values will be taken from Narayan (2005). Critical values have been developed by Narayan for small sample sizes ranging from 30 to 80 observations.

In the second step, once cointegration is confirmed the ARDL long run model for \(FDI_t\) is estimated as:

\[
FDI_t = \alpha_0 + \sum_{i=1}^{n} \gamma_1 \Delta FDI_{t-i} + \sum_{i=0}^{n} \gamma_2 \Delta GDP_{t-i} + \sum_{i=0}^{n} \gamma_3 \Delta \ln P_{t-i} + \sum_{i=0}^{n} \gamma_4 \Delta \text{Exchr}_{t-i} + \\
\sum_{i=0}^{n} \gamma_5 \Delta \text{Pop}_{t-i} + \epsilon_t
\]

This equation is estimated once the lag order has been determined.

### Error Correction Model

Finally, the last step of bounds testing approach involves estimating the error correction model (ECM) to determine the short run dynamic coefficients of the model. When there is cointegration, it means that there is a long run equilibrium relationship between the variables. However, due to temporary or permanent disturbances economic systems are not usually in full equilibrium. For this reason, the short run behavior of variables becomes an important aspect of study. There can be disequilibrium between the variables in the short run. Therefore, an error correction model (ECM) is necessary to tie the short run behavior to its long run (Gujarati & Sangeetha, 2007). The ECM representation takes the following form:

\[
\Delta FDI_t = \alpha_0 + \sum_{i=1}^{n} \gamma_1 \Delta FDI_{t-i} + \sum_{i=0}^{n} \gamma_2 \Delta GDP_{t-i} + \sum_{i=0}^{n} \gamma_3 \Delta \ln P_{t-i} + \\
\sum_{i=0}^{n} \gamma_4 \Delta \text{Exchr}_{t-i} + \sum_{i=0}^{n} \gamma_5 \Delta \text{Pop}_{t-i} + \varphi \text{ect}_{t-1} + \epsilon_t
\]

Where the \(\gamma_i\) are the short run coefficients; \(\varphi\) is the speed of adjustment and other variables are defined as previously.
RESULTS and DISCUSSION

The results showed that FDI is stationary after first order differencing, while GDP growth is stationary at levels; inflation and exchange rate become stationary after first order differencing while population is stationary after first order differencing when trend is included. Results of the unit root test are presented in table 1 below.

Table 1: Unit root test results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Levels</th>
<th>1st difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>intercept</td>
<td>Intercept + trend</td>
</tr>
<tr>
<td>FDI</td>
<td>-1.454293</td>
<td>-2.693347</td>
</tr>
<tr>
<td>GDP</td>
<td>-5.291188***</td>
<td>-5.515813***</td>
</tr>
<tr>
<td>INF</td>
<td>-2.360091</td>
<td>-3.873550**</td>
</tr>
<tr>
<td>EXCHR</td>
<td>-0.368349</td>
<td>-3.070095</td>
</tr>
<tr>
<td>POP</td>
<td>-1.812018</td>
<td>-3.241142</td>
</tr>
</tbody>
</table>

Note: ***, **, * represent the rejection of a null hypothesis at 1, 5 and 10% level of significance respectively.

Having confirmed that none of the variables are I (2), OLS test was then applied to determine the long run relationship. For lag order selection the Schwarz’s Bayesian Information Criteria (SBC) was used. As stated in a study by Pesaran (as cited in Narayan, 2004) since the data is annual a maximum of 2 lags can be used to obtain the ARDL model. From this maximum number of lags the lag length that minimizes SBC is selected. The best estimated ARDL model that minimizes SBC is ARDL (1, 0, 1, 2, 1). This implies taking one lag for the dependent variable (FDI); no lag (zero) for GDP growth; one lag for inflation; two lags for exchange rate; and one lag for population. Results from bounds testing approach to cointegration are reported in table 2 below.

Table 2: F-statistic for the joint significance (Cointegration)

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Level of significance</th>
<th>Bounds critical values ( Unrestricted intercept and restricted linear trend)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.30*</td>
<td>1%</td>
<td>5.20</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>3.09</td>
</tr>
</tbody>
</table>

Note: Critical bound values taken from Narayan (2005); cointegration at 10 percent (*).
Bound critical values from Pesaran (2001)

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Level of significance</th>
<th>Bound critical values (Unrestricted intercept and restricted linear trend)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.30**</td>
<td>1%</td>
<td>3.81</td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td>3.05</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>2.68</td>
</tr>
</tbody>
</table>

Note: ** denotes significance at 5 percent.

The results from a bounds testing approach and to cointegration point of views indicates the evidence of a long run relationship among the variables. The calculated F-statistics of 4.30 is greater than the upper bound critical value of 4.12 from Narayan (2005) at 10 percent level of significance. Indicating that the null hypothesis of no cointegration cannot be accepted, meaning that there is a long run relationship among the variables. For comparison purpose, the calculated F-statistic of 4.30 was also compared with the bound critical values provided by Pesaran (2001), and the results also indicate evidence of cointegration among the variables.

The long run model is estimated from the ARDL framework (1, 0, 1, 2, 1). In Table 3, the results below show that all variables affect FDI in the long run.

**Table 3: Long run model ARDL (1, 0, 1, 2, 1). Dependent variable: FDI**

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Coefficients and their t-statistic in [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>0.21 [2.49]***</td>
</tr>
<tr>
<td>INF</td>
<td>0.32 [2.98]***</td>
</tr>
<tr>
<td>EXCHR</td>
<td>-1.897 [-8.08]***</td>
</tr>
<tr>
<td>POP</td>
<td>-1.31 [-3.63]***</td>
</tr>
<tr>
<td>TREND</td>
<td>0.72 [10.26]***</td>
</tr>
</tbody>
</table>

Note: ***, ***, *** denotes significance at 1; 5 and 10 percent significance level respectively.

With regards to the sign of inflation, it is positive and statistically significant, becoming inconsistent with the theories. The result suggests that an increase in inflation will result in higher FDI inflows in the long run. This positive relationship between inflation and FDI is somehow consistent with a study by Abubakar and Abdullahi (2013) who found also a positive relationship between FDI and inflation in Nigeria. This is a questionable result that needs further analysis. Regarding the significance of exchange rate, the sign suggests that in the long run an increase in the exchange rate (a depreciation of the Namibian dollar (NAD)) leads to lower FDI inflows. This outcome seems to suggest that in Namibia, an appreciation of the NAD favours FDI in the long run than otherwise. This may be because an appreciation of the currency in the long run shows a sign of monetary stability. This result is consistent with the empirical findings by Jin and Zang (2013) for China.

Regarding the significance of population, the result indicates that an increase in population leads to a decrease in FDI inflows. This result shouldn’t be a surprise because Namibia still suffers from a number of problems such as high unemployment; poverty etc. therefore an increase in population would simply put pressure on the available resources the country is
endowed with and in the long term affecting economic growth and the attraction of FDI to a
country. Furthermore, the sign of GDP growth is positive and statistically significant,
indicating that GDP growth positively impacts on the receipt of FDI in Namibia.

The results of the error correction model (ECM) are reported in Table 4 below. The results
reported indicate that most variables affect FDI in the short run.

<table>
<thead>
<tr>
<th>Table 4: Short run model ARDL (1, 0, 1, 2, 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent variables</strong></td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D(GDP)</td>
</tr>
<tr>
<td>D(INF)</td>
</tr>
<tr>
<td>D(EXCHR)</td>
</tr>
<tr>
<td>D(EXCHR(-1))</td>
</tr>
<tr>
<td>D(POP)</td>
</tr>
<tr>
<td>ECT(-1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnostic tests (Prob-values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LM test</td>
</tr>
<tr>
<td>Hettest BG</td>
</tr>
<tr>
<td>Jarque-Bera</td>
</tr>
<tr>
<td>Ramsey RESET test</td>
</tr>
</tbody>
</table>

| Adjusted R-Square | 0.86 |

Note: ***, ***, * denotes significance at 1; 5 and 10 percent significance level respectively.

As can be seen, GDP growth has a positive sign as before and it is statistically significant at 1
percent, indicating that economic growth is important for the attraction of FDI in Namibia.
The positive sign of inflation is also consistent with that in the long run model, suggesting a
positive relationship. In the short run a positive sign for inflation may not necessarily be a
doubtful result, since deflation is considered to be a serious problem in the economy.
Therefore, a moderate increase in price level in the short run may lead to the attraction of FDI
as it can encourage spending and boost economic growth. But this is only possible in the
short run. The positive sign of exchange rate at 1 percent is clearly highly significant.
Contrary to the long run effect, this result indicates that in the short run an increase in the
exchange rate (a depreciation of NAD) will result in higher FDI, as it gives foreign investors
a higher buying power over Namibian assets. This outcome seems also to support the J-Curve
theory which holds that a depreciation of the currency may initially worsen trade balance, but
as time goes on the depreciated currency will favour the country as it makes its goods cheaper
resulting in an increase in exports and improving the current account). Accordingly, if the
goal of foreign direct investors in Namibia is production (and exporting) then a cheaper NAD
(rather than an expensive NAD) and favorable trade policies will likely be preferred.

The significance of the error correction term ectl(-1) at 1 percent level indicates evidence of
causality running from the explanatory variables to FDI (one direction). The coefficient of
ECT(-1) reported is -1.40, indicating that about 140% of disequilibrium in the system will be
corrected in 1 year. This coefficient is out of the range of what is theoretically accepted (that
is between 0 to -1). Diagnostic tests have been applied on the ARDL model (1, 0, 1, 2, 1) and no evidence of serial correlation, heteroskedasticity was found. Jarque-Bera test suggests a normal distribution; Ramsey RESET test for model specification has also passed the test. However, the value of the error correction term although highly significant requires further analysis which is beyond the scope of this work.

Finally, to establish the stability of the model the CUSUM test was applied to test for parameter stability. The decision rule is based on the blue line, that is, when the blue line is within the two red lines the model is stable, otherwise it is not. Based on the results reported in figure 2 below, the model estimated is stable at 5 percent level, implying no issue of parameter instability during the period.

Figure 2: CUSUM test for parameter stability.

CONCLUSION

This paper investigated the determinants of foreign direct investment in Namibia from the period of 1984 – 2014. The bounds testing approach was used to determine the long run relationship among the variables. The findings showed that there is cointegration (long run relationship) among the variables used in this study. The findings also showed that there is causality running from GDP, inflation, exchange rate and population to FDI (one direction). However, although the models passed all necessary diagnostics tests, given the small sample size used due to insufficient data, further analysis with larger sample is needed as part of future research to ensure the credibility of the findings. Based on the results of long run estimates, the null hypothesis that FDI inflows in Namibia are not influenced by GDP growth, exchange rate and population size cannot be accepted. Based on the empirical results found, the following conclusions can be made: Namibia is a developing economy, with a lot of competing priorities as part of government objectives. Given that foreign direct investment plays an important role for the growth of the country, government need to put in place adequate measures and create a favourable environment for economic activities to attracting international investors. While not much can be done with regard the exchange rate policies, inflation seems to have a positive impact on FDI in the short run. Despite the lack of monetary policy space that arises from the pegging of the NAD, the government should still submit to the use of inflation targeting policies and other related macroeconomic measures favorable to the needs of the country as a means to keeping inflation in check. Lastly, GDP growth was clearly seen to have a positive impact on FDI, therefore there is a need to make use of adequate fiscal and monetary measures that stimulates economic growth at a rate that surpasses the rate of population growth, because an increase in population was seen to have a negative impact on FDI in the long run.
REFERENCES


