

The Export Effects of Inward Foreign Direct Investment in the South African Economy

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Abstract: It is an open secret that the world was plunged into a world financial crisis caused by the United States credit bubble in the mid-late 2000's. During this time, South Africa was not spared the negative effects of this crisis. It was also during this time that South Africa's level of exports and inflows of foreign direct investment declined sharply. Thus, it is against this backdrop that the study investigates the relationship between exports and foreign direct investment inflows in the South African economy seeing that they seem to be moving in the same direction. Using yearly secondary data spanning the period 1980 – 2015, the Johansen cointegration test was employed to test for the long run cointegrating relationship between the variables in the export model. The Granger causality test was employed to test for the direction of causality between the variables whereas the Vector Error Correction Model (VECM) was employed to estimate the speed of adjustment. The results from the cointegration test showed that there is a long run relationship between exports, real economic growth, inward FDI and real effective exchange rate. There is also a one-way causal relationship running from exports to inward FDI. The long run export model shows that an increase in FDI induces an increase in exports. The paper recommends the strengthening of trade policy in the way of providing export subsidies to domestic producers in order to help lower their prices and be able to compete in international markets. As a more reliable instrument to increase exports, the government should adopt exchange rate policy to stabilise the exchange rate.

Keywords: Exports, Foreign Direct Investment, Real GDP, Real Effective Exchange Rate

1. Introduction

No economy in the world, perhaps excluding North Korea with her Juche economic philosophy of self-sufficiency, can afford to be autarkic in modern times. In order to have a success of an economy, a country has to have very strong ties with the rest of the world so as to be enabled to compete successfully in international markets. It is correctly pointed out in Mohr, Phillip and Associates (2008) that economies that cannot compete in the international arena tend to stagnate or decline.

In the South African context, imports, exports and international capital movements have all been important in the development of the economy. However, the balance of payments has not always been favourable, owing (to some extent) to a high deficit in the current account of the balance of payments. For instance, South Africa has been confronted with a very huge deficit in the current account of the Balance of payments. It was reported in the SARB Quarterly Bulletin (March 2015). The balance in the fourth quarter of 2014 recorded a deficit of R207 billion representing just over 5.4% of the country's GDP and although this deficit was mainly due to the outflow of funds in

the form of net service, income and current transfer payments, part of it was as a result of an ever rising trade deficit which was reported at R35 billion for the 4th quarter and a cumulative R69 billion for the year 2014. According to Matlasedi (2016), both exports and imports declined sharply during 2009 as South Africa felt the effects of the world financial crisis which had gripped most economies for two consecutive years preceding 2009.

Foreign Direct Investment (FDI) can enhance the ability of a country to compete successfully and realise its macroeconomic goals/objectives such as full employment, economic growth, equitable distribution of income and balance of payments stability (International Monetary Fund, 2005). FDI has also been praised for its positive impact on employment and on the economic growth of a country, and as it is expressed in International Monetary Fund (2005), FDI can also represent a source of foreign exchange inflows that can help strengthen a country's total international reserves (International Monetary Fund, 2005).

A closer look at recent trends as reported in UNCTAD (2013) on inward FDI, suggests that South Africa

recorded a decline from \$6 billion (R60.6 billion) in 2011 to \$4.6 billion (R46.46 billion) in 2012. This decrease was mainly due to net divestment in the third quarter of 2012 as a foreign mining company offloaded its stake in a local subsidiary. Roberts (2011) states that inward FDI declined by as much as 70% between 2009 and 2010 and that was the period in which South Africa was beginning to feel the full effects of the world financial crisis. This is illustrated further in section 4. Therefore, it is against this backdrop that the researcher proposes to investigate if there is a causal relationship between trade and inward FDI, as they both deteriorated sharply during the world financial crisis.

2. Literature Review

2.1 Theoretical Framework

The IMF (1993) defines FDI as a category of international investment that reflects the objective of a resident in one economy (the direct investor) obtaining a lasting interest in an enterprise resident in another economy called, the direct investment. The lasting interest implies the existence of a long-term relationship between the direct investor and the direct investment enterprise, and a significant degree of influence by the investor on the management of the enterprise. A direct investment relationship is established when the direct investor has acquired ten percent or more of the ordinary shares or voting power of an enterprise abroad.

It is stated in Amity and Greenaway (2000) that until recently, it has been difficult to base empirical work on a theoretical framework given the lack of a unified theory covering different types of FDI. Theories on FDI – trade relationships include 'horizontal' multinational enterprises (MNEs) as in Markusen (1984), i.e. firms which produce the same goods in multiple countries, or on 'vertical' MNEs as in Helpman (1984), i.e. firms which geographically fragment production by stages. Predictions about the relationship between FDI and trade crucially depend on whether FDI is vertical or horizontal: theories on horizontal FDI predict a negative relationship whereas theories on vertical FDI predict a positive relationship.

2.2 Empirical Evidence

It is stated in Marinova and Marinov (2003) that if a country has a very high deficit in the current

account, one usually looks at the inflow of foreign direct investment. Not only can such an FDI inflow fill the gap in the current account of the balance of payments, but it can also stimulate exports in the future thus creating a more permanent solution to the current account deficit problem.

Hailu (2010) states that FDI is expected to affect export from the export supply side of the host country. FDI may enhance export-oriented productivity that further improves export performance. Others may argue that export leads to increase in productivity that further attracts foreign investors to undertake FDIs. Export contributes to growth by facilitating labour mobilisation and capital accumulation. In theory, there is a two-way causal relationship between trade and productivity, although advocates of export-led growth generally contend that exports enhance productivity growth. These economists argue that firms tend to learn advanced technologies through exports and must adopt them to compete in the foreign marketplace. Firms also learn by doing, and emulate foreign rivals through trial and error inherent in the production and sale of export goods (Hailu, 2010).

Several studies have been undertaken to investigate the effect of FDI on exports such as those by Orr (1991), Blomstrom et al. (1988), Pfaffermayr (1994), and Lin (1995). Of all the researchers acknowledged, only Orr (1991) examined the trade balance effects of inward FDI to the United States of America (USA). He suggests that FDI improves the competitiveness of US firms in both US and international markets. He found an elasticity of US aggregate exports to FDI of 0.21 which suggests that FDI in the US during the late 1980s raised US exports by roughly \$20 billion over the long term.

Orr's findings (1991) suggest that USA's FDI in Mexico may initially raise US exports and improve the US trade balance. However, Mexico's imports of US goods may eventually fall and US imports from Mexico may eventually rise. Total US exports could rise if the US parent would ship inputs to Mexico for final assembly before shipment back to the US and if lower production costs in Mexico create a larger US market for the good than would otherwise exist.

Dunning and Lundan (2008) point that several scholars have also attempted to measure the

balance of payment impacts of foreign affiliates operating in developing countries. In Latin America, Vernon (1971) found a positive impact of US inward direct investment on the balance of payments in the early 1960s, if it is assumed that the goods and services arising from the investment would otherwise be imported. However, the impact becomes negative if the assumption is that such production had replaced that by indigenous firms. Biersteker (1978) obtained the same results for foreign firms in Nigeria.

Examining the balance of exports by foreign-invested enterprises (FIEs) in China between 1980 and 1996, Sun (1998) found that although the overall balance of Chinese trade was increasingly positive from 1990 onwards, although that of FIEs was consistently negative over the entire period. This he attributes to their imports of machinery and equipment, which is supported by the fact that if such imports are excluded from the calculations, the balance of trade of the FIEs was balanced or had a modest surplus since 1990, in spite of their considerable imports of intermediate goods

Since the turn of the millennium, there have also been studies conducted such as that of Liu *et al.* (2002), which found evidence of Granger causality between FDI and trade in China based on panel data covering 19 investing home countries in 1984 and 1998. They found a one-way complementary link between the growth of China's imports and the complementary link of the inward FDI stock from the home country. They also revealed that there is a one-way complementary link from the growth of inward FDI in China and Chinese exports on the home country. Finally, they found a one-way complementary link between the growth of Chinese exports to imports, although, in their assignment, this link lacked a clear theoretical basis.

In a study on the US economy, Orr (1991) hypothesised that inward FDI should lead to lower US imports, but, empirically, an increase in FDI appears to raise aggregate imports even after several years. However, this finding does not hold up at the industry level. For example, Orr finds that FDI in the US auto industry initially raised the trade deficit as imports of capital goods and parts offset the reduction in imports of finished automobiles. However, after four years, FDI led to a trade surplus in automobiles as imports of capital goods and parts fell and domestic content rose.

Jansen (1995) found that even though direct investment was strongly export orientated and contributed to a sharp increase in exports earnings in Thailand, it also led to an even sharper increase in imports, which resulted in deterioration on the current account, and an increase in external debt burden. Thus, while the direct investment itself did not constitute a debt obligation, its indirect effects led to adjustments that resulted in increased borrowing.

Another study has revealed that Central and Eastern Europe, which received considerable flows of inward FDI in the 1990s, recorded increasing current account deficits, caused largely by imports exceeding exports on the other hand. However, it is pointed out in Pöschl (2000), that if a net inflow of FDI coincides with increased deficits on the current account, these deficits might be the result of upgrading and capital imports, and consequently a sign of increasing, rather than declining, competitiveness. Furthermore, the capital inflows can offset some of the current account deficit, increase reserves and decrease vulnerability to financial crisis.

3. Methodology

The aim of the study is to investigate the effects of inward Foreign Direct Investment (FDI) on exports in the South African economy. This section discusses the methodology adopted, which is basically quantitative in nature. The data section is followed by the model specification and estimation techniques conclude the section.

3.1 Data

The study used annual secondary data spanning the period 1970-2015. Data for Merchandise Exports, Real Gross Domestic Product and Real Effective Exchange Rate was obtained from the South African Reserve Bank (SARB) whereas data for Foreign Direct Investment Inflows was obtained from the World Bank.

3.2 Model Specifications

Export model

$$LNEXP_t = \beta_0 + \beta_1 LNGDP_t + \beta_2 LNFDI_t + \beta_3 LNREER_t \quad (1)$$

Priory expectation

$$\beta_1 > 0; \beta_2 > 0; \beta_3 < 0$$

Where $LNEXP$ = the log of real merchandise exports, $LNGDP$ = the log of South Africa's real GDP in constant 2010 prices. The elasticity is expected to be positive in both models. $LNFDI$ = the log of foreign direct investment inflows expressed as a percentage of GDP. The elasticity is expected to be positive in both models. $LNREER$ = the log of the real effective exchange rate based on the volume of trade in manufactured goods between RSA and 20 of its major trading partners. The elasticity is expected to be negative in the export model as a decrease in the value of the rand leads to an increase in the value of exports.

3.3 Estimation Techniques

3.3.1 Unit Root Tests

Augmented Dickey-Fuller (ADF) unit root test.

The equation for the A Augmented Dickey-Fuller (ADF) unit root test is given by:

$$\Delta y_t = a_0 + \beta t + \gamma y_{t-1} + \delta_1 \Delta y_{t-1} + \dots + \delta_{p-1} \Delta y_{t-p+1} + \varepsilon_t \quad (2)$$

Where a is a constant, β , the coefficient on a time trend and p is the lag order of the autoregressive process. Maggiora and Skerman (2009) state that it must be noted that in order to select the optimal lag length for the model, the log-likelihood function must be maximised. That is done by selecting the model with the lowest Schwartz Bayesian Information Criterion (SBC) and confirming the results with the Akaike Information Criterion (AIC) in order to ensure accuracy.

The Phillips – Perron (PP) unit root test is one of the most widely used alternatives to the ADF test in the analysis of time series data. The difference in the tests (ADF & PP) lies in how issues of serial correlation and heteroskedasticity are dealt with. Whereas the ADF test uses a parametric autoregression to approximate the ARMA structure of the errors in the test regression, the PP modifies the test statistic so that no additional lags of the dependant variable are needed in the presence of serially – correlated errors (Phillips and Perron, 1988). An advantage with the test is that it assumes no functional form for the error process of the variable which means that it is applicable to a very wide set of problems.

A disadvantage of the test is that it relies on large samples to give reliable results and hence it will perform rather poorly in small sample sizes.

3.3.2 Johansen Cointegration Test

After completion of unit root testing on the time series and assuming that all time series are integrated of the same order, a bivariate Johansen cointegration test is conducted between each of the variables in the trade balance model. The Johansen process is actually "a maximum likelihood method that determines the number of cointegrating vectors in a non-stationary time series Vector Auto Regression (VAR) with restrictions imposed, known as a vector error correction model (VEC)" (Johansen and Juselius, 1990: 194).

3.3.3 Granger Causality Test

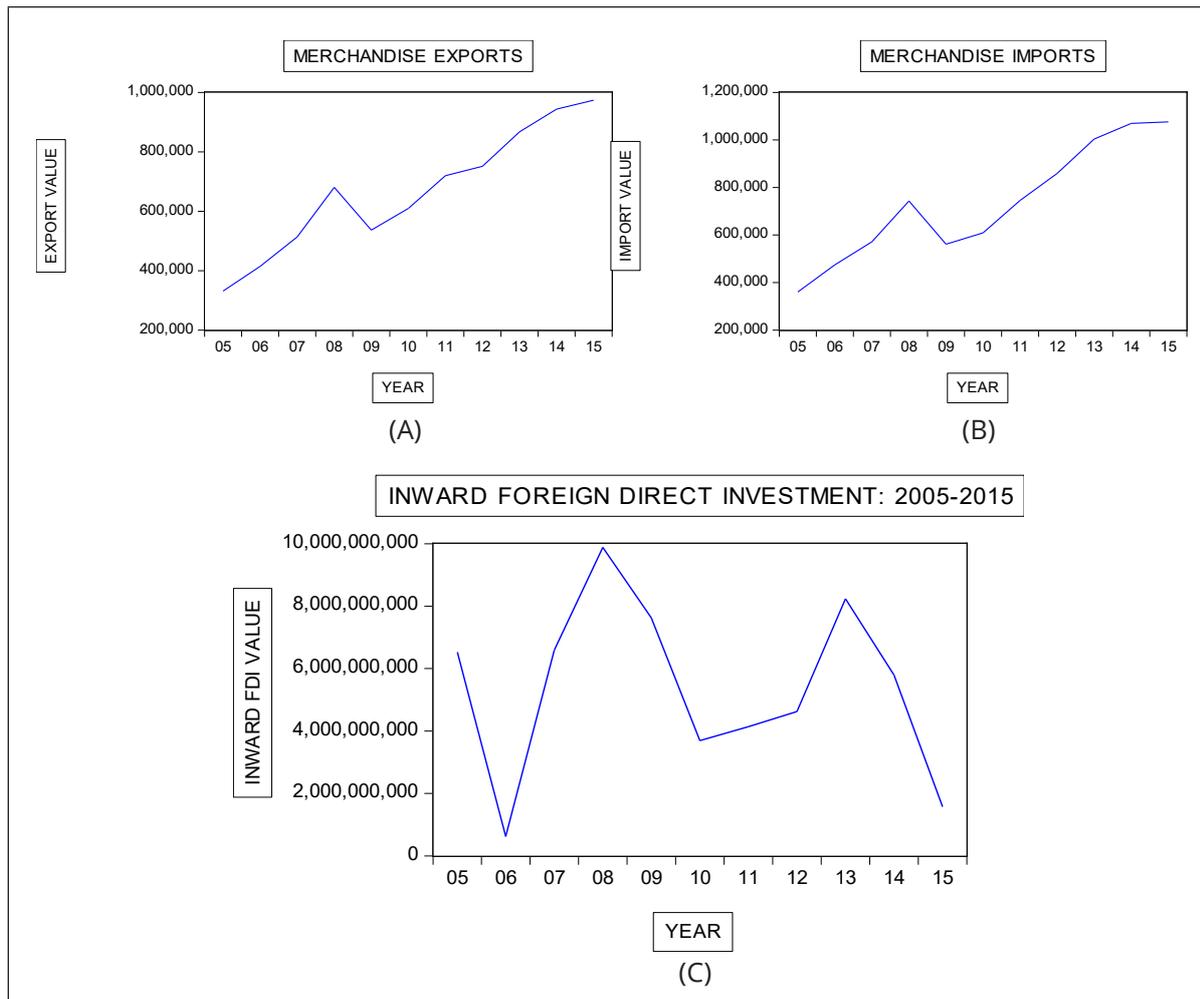
The concept of Granger causality starts with the premise that the future cannot cause the past. If event A occurs after event B, then A cannot cause B. Granger (1969) applied this concept to economic time series to determine whether one-time series "causes" in the sense of precedes another. However, merely because event A occurs before B does not mean that A causes B. Therefore, the Granger causality test will also be used to determine if there is causality between inward FDI and exports as well as the direction of causality between the variables.

It is stated that if ever the F-statistic is greater than the Probability value, then the null hypotheses can be rejected.

4. Results and Discussion

Figure 1, panels (A) – (C) show the trend and behaviour of merchandise exports, inward foreign direct investment and merchandise imports for the period 2005-2015. The period is chosen because it offers us a chance to analyse the trends before, during and after the world financial crisis. In panel (A) and (B), exports and imports follow a very close pattern and almost move identically, that is, they increase and decrease around the same time. The figure in panel (C) shows that inward FDI moves differently. However, of particular importance is the period between 2008 and 2009, which could be attributed to the world financial crisis. During that time, all the variables reported in figure 1, declined sharply, which prompted the need to investigate how inward foreign direct investment can influence the trade balance through the export path.

Figure 1: The Pattern of Trade and Inward FDI During the Period [2005-2015]



Source: Authors

4.1 Unit Root Tests

Table 1: Unit Root Tests: Augmented Dickey Fuller and Phillips – Perron

VARIABLE	INTERCEPT		INTERCEPT & TREND		ORDER OF INTERGRATION
	ADF	PP	ADF	PP	
<i>LNEXP</i>	-4.282	-4.282	-4.516	-4.476	I(1)
Δ <i>LNEXP</i>	-6.857***	-8.584***	-6.767***	-8.905***	I(1)
<i>LNIMP</i>	-1.776	-1.858	-2.849	-2.773	I(1)
Δ <i>LNIMP</i>	-5.732***	-5.960***	-5.888***	-10.561***	I(1)
<i>LNFDI</i>	-4.255	-3.975	-5.720	-5.966	I(1)
Δ <i>LNFDI</i>	-7.291***	-19.736***	-7.158***	-19.314***	I(1)
<i>REER</i>	-1.883	-1.547	-3.624*	-2.677	I(1)
Δ <i>REER</i>	-5.160***	-5.625***	-5.078***	-5.534***	I(1)
<i>LNGDP</i>	-1.607	-1.638	-1.825	-1.898	I(1)
Δ <i>LNGDP</i>	-6.404***	-6.365***	-6.311***	-6.280***	I(1)

Δ represents the difference operator. *, **, *** represents the rejection of the null hypothesis at 10%, 5% and 1% levels of significance

Source: Authors

The results in Table 1 on the previous page show that all the variables are non-stationary at level form but become stationary when the both ADF and PP tests are applied to their 1st differences. Thus, the variables are integrated of the first order and are applicable for the Johansen cointegration test and the VECM.

4.2 Johansen Cointegration Test Results

In order to test for cointegration, it is necessary that we determine the lag length in the series. The

lag order selected by most is the one chosen as indicated by asterisks in Table 2 below.

The (1) lag chosen by the Schwarz information criterion and the Hannan-Quinn information criterion yielded unsatisfactory results, thus, (2) lags were chosen as suggested by the Akaike information criterion (AIC). Hence, the paper uses 2 lags for the estimation of the Johansen cointegration test, the VECM and the Granger causality test.

See Tables 3 and 4 below:

Table 2: VAR Lag Order Selection Criteria for the Export Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-128.8710	NA	0.006576	6.327189	6.492681	6.387848
1	20.08631	262.4485*	1.18e-05	-0.004110	0.823352*	0.299187*
2	36.66883	26.05824	1.17e-05*	-0.031849*	1.457582	0.514086
3	50.63466	19.28615	1.36e-05	0.065016	2.216417	0.853590
4	67.65259	20.25944	1.45e-05	0.016543	2.829913	1.047755

* indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error
 AIC: Akaike information criterion
 SC: Schwarz information criterion
 HQ: Hannan-Quinn information criterion

Source: Authors

Table 3: Trace Test

Hypothesised No. of CE(s)	Eigen Value	Trace Statistic	Critical Value @ 5%	Prob.**
None *	0.442740	50.49612	47.85613	0.0276
At most 1	0.389713	25.35302	29.79707	0.1492
At most 2	0.091063	4.118526	15.49471	0.8937
At most 3	0.000300	0.012887	3.841466	0.9094

Source: Authors' computation

Table 4: Max-Eigen

Hypothesised No. of CE(s)	Eigen Value	Max-Eigen Statistic	Critical Value @5%	Prob.**
None	0.442740	25.14310	27.58434	0.0995
At most 1 *	0.389713	21.23450	21.13162	0.0484
At most 2	0.091063	4.105639	14.26460	0.8480
At most 3	0.000300	0.012887	3.841466	0.9094

Source: Authors' computation

The Johansen cointegration test shows that in the export model, there is a long run relationship between the variables as evidenced by the trace statistic which is greater than the critical value at the 5% level of significance. Therefore, since a long run relationship is confirmed, the paper then proceeds to estimate the VECM for the export model.

4.3 The Vector Error Correction Model

Long run cointegrating equation from the normalised cointegrating vector is represented as follows:

$$LNEXP_t = -12.35 + 0.04FDI_t + 2.66LNGDP_t + 0.01REER_t + \varepsilon_t \quad (3)$$

In order to give a more accurate picture, coefficients from the long run normalised cointegrating equation are multiplied by (-1). The results show that as expected, foreign direct investment inflows have a positive relationship with exports. A 10% increase in FDI inflows leads to a 0.4% increase in the level

of exports. There is also a positive relationship between domestic GDP and the level of exports. A 10% increase in the level of GDP will surge exports by 26.6%. The results further show that there is a positive long run relationship between exports and the exchange rate. This means that when the value of the exchange rate declines, so does the value of exports. The result does not meet the priority expectation of a depreciation increasing exports.

4.4 Pairwise Granger Causality Test Results

The results from the Pairwise Granger Causality Test (Table 6 below) show that there is one-way causality which runs from exports to FDI, meaning that exports predict increases in the inflows of FDI in the South African economy and not the other way round. There is also one-way causality from imports to inward FDI, meaning that greater imports help explain increases in inward FDI. Also of interest is that increases in GDP predict inward FDI in the South African economy.

Table 5: The Vector Error Correction Model Results

Cointegrating Equation	LEX(-1)	FDI(-1)	LGDP(-1)	REER(-1)	C
Coint Eq1	1.000000	-0.037741 (0.03530)	-2.659819 (0.21915)	-0.011143 (0.00309)	12.34994
Notes: Standard error in ()					

Source: Authors

Table 6: Pairwise Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause LEX	44	0.12780	0.8804
LEX does not Granger Cause FDI		3.97179	0.0269
REER does not Granger Cause LEX	44	0.43200	0.6523
LEX does not Granger Cause REER		3.66856	0.0347
LGDP does not Granger Cause FDI	44	5.36197	0.0088
FDI does not Granger Cause LGDP		0.35592	0.7028
LIM does not Granger Cause FDI	44	4.14520	0.0233
FDI does not Granger Cause LIM		0.78870	0.4616
REER does not Granger Cause LGDP	44	3.98414	0.0266
LGDP does not Granger Cause REER		2.48501	0.0964
LIM does not Granger Cause REER	44	2.08208	0.1383
REER does not Granger Cause LIM		3.42211	0.0427
Decision rule: If Probability value is <5% level of significance, the null hypothesis is rejected.			

Source: Authors

5. Conclusion and Recommendations

The paper investigated the effects of inward FDI on exports in the South African economy where annual data covering the period 1970 – 2015 was used in the study. The Augmented Dickey Fuller and Phillips – Perron Unit root tests were employed to test for the stationarity of the variables so as to give way to estimation techniques. The Johansen cointegration test was employed to test for the long run relationship between the variables in the export model. The Vector Error Correction Model was used to estimate the long run equation as well as the speed of adjustment. The Granger causality test was employed to test for the direction of causality between the variables.

The results from the unit root tests show that all the variables were not stationary at level form, but became stationary when the ADF and PP tests were applied to their 1st differences. A long run relationship was determined using the Johansen cointegration method. The results from the VEC long run model show that all the variables, except for the real effective exchange rate, carried all the expected signs. An increase in inward FDI was found to increase the level of exports. An increase in domestic GDP or income was found to increase the level of exports. Rand depreciation was found to decrease exports in the long run, thus contradicting with theory. The results from the Pairwise Granger Causality Test showed that there is a one-way causal relationship which runs from exports to FDI, meaning that exports predict the inflows of FDI in the South African economy and not the other way round. There is also one-way causality from imports to inward FDI, meaning that greater imports help explain increases in inward FDI. Also of interest is that increases in GDP predict inward FDI in the South African economy.

The results from the study have practical implications for policy discussions. Firstly, trade policy could be strengthened in terms of providing export subsidies to domestic producers in order to help lower their prices and be able to compete in international markets. The government can also impose stricter import controls in the form of tariffs and the imposition of quotas. Furthermore, as a more reliable instrument to control imports and increase the level of exports, the government can try to use exchange rate policy to regulate the exchange rate.

Export growth, although it has always been strong, it has also been outpaced by import growth for a significant amount of time. One of the major reasons that have contributed to the trade deficits since the world financial crisis has been the turmoil (industrial action) in the mining and agricultural sectors in protest against lower wages, thus leading to lower productivity and lower production in those industries. The result was a decrease in commodity exports (and thus a deterioration of the trade balance). Therefore, the government will do well if it can try to control the industrial action(s) before it spills out of control. One way to do this would be to come up with a policy/agreement similar to the 3 (three) year wage agreement the government had with public servants in 2012 and AMCU signed with the LONMIN mine in 2016 in order to avoid the debilitating effects of strikes.

With regard to inward FDI, the government needs to steer away as clear as possible from the nationalisation rhetoric as that could lead to a loss of business sentiment/confidence and a downgrade in credit ratings. The downgrade in credit ratings will mean that foreign investors will be discouraged from bringing in foreign capital which can help bolster economic growth and reduce unemployment. On the other hand, the Trade, Exports and Investment division of the Department of Trade and Industries (DTI) is tasked with promoting trade and inward foreign direct investment as well as building trade and investment relations. This division also focuses on encouraging exports in order to leverage global growth for the development of the South African economy through the establishment of collaborative agreements with existing trading partners and dynamic fast growing markets. The DTI would also do well if it can capacitate this division in order to achieve its objectives more efficiently.

References

- Amiti, M. & Greenaway D. 2000. *Foreign Direct Investment and Trade: Substitutes or Complements?* University of Melbourne, Working Paper, pp.1-24.
- Biesteker, T.J. 1978. *Distortion or Development: Contending Perspectives on the Multinational Corporation*. Cambridge, MA: MIT Press.
- Dunning, H.J. & Lundan, S.M. 2008. *Multinational Enterprises and the global economy*, second edition. New York: Free Press.
- Fontagne, L. & Pajot, M. 2000. *Relationships between Trade and FDI Flows within Two Panels of US and French Industries*, in

- R.E. Lipsey and J.L. Mucchielli eds. *Multinational Firms and Impacts on Employment, Trade and Technology. New Perspectives for a New Century.*
- Gujarati, D. 2004. *Basic Econometrics.* McGraw-Hill: New York City
- Hailu, Z.A. 2010. Impact of Foreign direct investment on African countries. *International Journal of Economics and Finance.* 2:122-133.
- IMF. 1993. *The Balance of Payments Manual.* Washington DC: IMF.
- IMF. 2005. *Post-apartheid South Africa: The first ten years.* Washington DC: IMF.
- Jansen, K. 1995. The macroeconomic effects of direct foreign investment: The case of Thailand. *World Development.* 23(2):193-210.
- Lin, An-Loh. 1995. Trade Effects of Foreign Direct Investment: Evidence for Taiwan with Four ASIAN Countries, *Weltwirtschaftliches Archive*, pp. 737-47.
- Liu, X., Brurridge, P. & Sinclair, P.J.N. 2002. Relationship between economic growth, foreign direct investment and trade: evidence from China. *Applied Economics.* 34(11):33-40.
- Matlasedi, N.T. 2016. *The Impact of the Real Effective Exchange Rate on South Africa's Trade Balance.* Unpublished masters dissertation. University of Limpopo. http://ul.netd.ac.za/bitstream/handle/10386/1696/matlasedi_nt_2016.pdf?sequence=1&isAllowed=y. Accessed 24 April 2017.
- Marinova, S. & Marinov, A. 2003. *Foreign Direct Investment in Central and Eastern Europe.* Hampshire: Palgrave.
- Markusen, J.R. 1984. Multinationals, multi-plant economies, and the gains from trade, *Journal of International Economics*, 16:205-226.
- Mohr, P., Fourie, L. & Associates. 2008. *Economics for South African Students.* Van Schaik publishers: Pretoria.
- Orr, J. 1991. The Trade Balance Effects of Foreign Direct Investment in U.S. Manufacturing. *Federal Reserve Bank of New York Quarterly Review*, pp. 64-76.
- Patterson, N., Montanjees, M., Motala, J. & Cardillo, C. 2004. *Foreign Direct Investment: Trends, Data Availability, Concepts, and Recording Practices.* International Monetary fund: Washington DC.
- Pfaffermayr, M. 1994. Foreign Investment and Exports: A Time Series Approach. *Applied Economics*, 26:337-51.
- Pöschl, J. 2000. *FDI in the balance-of-payments framework* in G. Hunya (ed.), *Integration through Foreign Direct Investment: Making Central European Industries Competitive*, Cheltenham, UK and Northampton, MA, USA: Edward Elgar in association with the Vienna Institute for International Economic Studies, pp. 218-43.
- Roberts, J. 2011. *Foreign direct investment in SA drops by 70%.* <https://mg.co.za/article/2011-07-26-sa-foreign-direct-investment-inflows-down-70/>. Accessed 24 April 2017.
- South African Reserve Bank. 2015. *Quarterly Bulletin.* March 2015: No. 275. Pretoria: Government Printer.
- Sun, H. 1998. Macroeconomic impact of foreign direct investment in China: 1979-96. *World Economy*, 21(5):675-94.
- United Nations Conference on Trade and Development. 2013. *World Investment Report 2013.* New York City: UN.
- Vernon, R. 1971. *Sovereignty at Bay: The Multinational Spread of U.S. Enterprises,* New York: Basic Books.