Why is South Africa Still a Developing Country?

Bakari, Sayef

LIEI, Faculty of Economic Sciences and Management of Tunis (FSEGT), University Of Tunis El Manar, Tunisia.

August 2017

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Sayef Bakari

PhD Student, Department of Economics Science, LIEI, Faculty of Economic Sciences and Management of Tunis (FSEGT), University Of Tunis El Manar, Tunisia.

Email: **bakari.sayef@yahoo.fr**

Abstract:

Despite the abundance of goods and natural resources that characterize South Africa, and despite the remarkable progress in the field of industry and manufacturing, it is still in the list of developing countries. The aim of this article is to re-examine the causes of this node by studying the basic pillars for the creation of solid economic growth as is the case for all developing countries by looking at the impact of domestic investment, exports and imports on South Africa's economic growth in the short and long term. Our empirical analyses show that imports present the main barrier of prosperity and progress in South Africa.

Keywords: Domestic Investment, Exports, Imports, Economic growth, South Africa.

I. Introduction

As a general rule, domestic investment in various sectors, whether public or private, is of prime necessity for the stimulation and development of economic growth. In addition to this, domestic investment will help to reduce and weaken the unemployment rate and raise awareness of the well-being of individuals. Otherwise, these investments positively infect the high productivity ratio, which leads to self-sufficiency in the country. With the country's self-sufficiency, the proportion of exports increase as a result of the remaining productivity, this shows the direct and indirect effect of investment in refinement and increased economic growth. These economics and strategies arguments have been verified by various studies by several researchers such as Romer (1986); Lucas (1988); Grier and Tullock (1989); Barro

(1991); Levine and Renelt (1991); Rebelo (1991); Mankiw, Romer, and Weil (1992); Fischer (1993) and Barro and Sala-martin (1999). Exports of goods and services are regarded as a motivation or persuasion to economic and social development through their strength to achieve strong economic growth, reducing unemployment and eliminating poverty. On the other hand, exports are also an exchange outflows fountain to deal with imports. Eventually they provide a real element of government revenue through tariffs that may occur or when excluded by public companies. In some situations, imports are seen as important instruments for foreign technologies and knowledge that can refine the national economy, as new technologies could be integrated into imports of intermediate goods such as machinery and equipment. This leads to an increase in the productivity of labor with a shorter time thanks to new techniques embodied. Among the studies that have shown that trade openness affect positively on economic growth are Michaely, (1977); Balassa, (1978, 1989 and 1995); Tyler, (1981); Grossman and Helpman, (1989); Tybout, (1991 and 1992); Rahman (1993); Savvides, (1995); Asmah, (1998); Sachs and Warner, (1997); Edward, (1998); Frankel and Romer, (1999); Ram, (1987). Since the European enlightenment of South Africa in the seventeenth century, this witnessed the presence of the first European peasant, thus carrying civilization and peasant revolution. Since then, over the next two centuries, the country has relied on crop production and animal husbandry. In the late 19th century, diamonds and gold were discovered and mining became the basis for the economy of the country in a short period. Also, mining has helped make South Africa the largest industrial country in Africa. Several factors helped South Africa's economy grow significantly in the 1950s, 1960s and 1970s, as the government encouraged domestic and foreign investment while providing and facilitating loans for industrial development. In addition, the country is rich in natural resources and has cheap force labor, making South Africa among the developed countries in terms of strength of the economy until the contribution of the main economic sectors in GDP as follows: industry 31%, agriculture 3% and services 66%. With the launch of the South Africa Growth Initiative (ASGISA: Accelerated and Shared Growth Initiative for South Africa), the Government is seeking to address most of these pressing challenges of implementing a number of programs that emphasize the importance of skills development, agrarian reform and the rehabilitation of the agricultural sector. In addition, The World Bank Group supports the development priorities identified by South Africa and supports the spread of the positive effects of its growth and expansion across the region. Factories also produce all the country's goods and equipment, such as clothing, textiles, metals and cars. Most of the factories are based in Cape Town, Johannesburg, Durban, and other industrial cities. South Africa is a major producer of

gold, coal, chromate, copper, diamonds, iron ore, manganese, phosphates, platinum, uranium and vanadium. Since the discovery of gold at the end of the 19th century, it has played an important role in the development of the country: gold production has increased the country's income, brought in huge foreign investment, achieved development and developed industry and railways. Most business operations are conducted in Germany, Japan, Switzerland, Britain, the United States and some African countries. Exports include gold, diamonds, metals, wool, maize, sugar and fruits. Machinery and transport equipment account for half the volume of imports. Other imports include chemicals, manufactured goods and oil. Unfortunately, despite all these possibilities and conditions, South Africa remains a developing country with a high unemployment and poverty rate. This situation led us to re-examine the economic fundamentals that support economic growth in South Africa. The general objective of this study is to investigate the influence of exports, imports and domestic investments on economic growth in South Africa. To fulfill this objective, this article is erected as follows. In section 2, we present the review literature concerning the nexus between trade and economic growth, and between domestic investment and economic growth. Secondly, we discuss the Methodology Model Specification and data used in this study in Section 3. Thirdly, Section 4 presents the empirical results as well as the analysis of the findings. Finally, Section 5 is dedicated to our conclusion and our epilogue.

II. Literature Survey

Various empirical studies inquire the acquaintance betwixt domestic investment and economic growth. These studies encompass:

Table 1: Studies related to the relationship between domestic investment and economic growth

No	Authors	Countries	Periods	Econometric techniques	Keys Findings
1	Altaee et al (2016)	Saudi Arabia	1980 - 2014	Cointegration Analysis ARDL VECM	Domestic Investment <=> GDP: Long Run
2	Bakari (2016)	Canada	1990 - 2015	Correlation Analysis Cointegration Analysis VECM Granger Causality Tests	Domestic Investment # GDP: Long Run Domestic Investment # GDP: Short Run
3	Bakari (2016)	Egypt	1965 - 2015	Cointegration Analysis	Domestic Investment # GDP

				VAR	
				Granger Causality Tests	
4	**Bal et al (2016)**	India	1970 - 2012	ARDL	Domestic Investment => GDP: Long run
				ECM	Domestic Investment => GDP: Short run
5	**Masoud and Suleiman (2016)**	Malaysia	1967- 2010	Cointegration Analysis	Domestic Investment # GDP: Long Run
				VECM	Domestic Investment <= GDP: Short Run
				Granger Causality Tests	
6	**Paul and Milanzi (2016)**	Tanzania	1970 - 2012	Cointegration Analysis	Domestic Investment <=> GDP: Long Run
				VECM	Domestic Investment <=> GDP: Short run
				Granger Causality Tests	
7	**Sama and Tah (2016)**	Cameroon	1980 - 2014	GMM	Domestic Investment => GDP
8	**Ahmad and Du (2017)**	Iran	1971 - 2011	ARDL	Domestic Investment => GDP: Long run
					Domestic Investment => GDP: Short run
9	**Bakari (2017)**	Japan	1970 – 2015	OLS	Domestic Investment => GDP
10	**Bakari (2017)**	Malaysia	1960 – 2015	Cointegration Analysis	Domestic Investment => GDP: Long Run
				VECM	Domestic Investment # GDP: Short Run
				Granger Causality Tests	
11	**Bakari (2017)**	Sudan	1976 – 2015	Cointegration Analysis	Domestic Investment # GDP: Long Run
				VECM	Domestic Investment <= GDP: Short Run
				Granger Causality Tests	
12	**Bakari (2017)**	Algeria	1969 – 2015	Cointegration Analysis	Domestic Investment => GDP: Long Run (negative effect)
				VECM	Domestic Investment => GDP: Short Run
				Granger Causality Tests	
13	**Bakari (2017)**	Gabon	1980 – 2015	Cointegration Analysis	Domestic Investment => GDP: Long Run (negative effect)
				VECM	Domestic Investment => GDP: Short Run
				Granger Causality Tests	
14	**Epaphra and Mwakalasya (2017)**	Tanzania	1990 – 2015	OLS	Domestic Investment => GDP
15	**Idenyi et al (2017)**	Nigeria	1986 – 2016	ARDL	Domestic Investment => GDP: Short run
				Granger Causality Tests	
16	**Keho (2017)**	Cote d'Ivoire	1965–2014	ARDL	Domestic Investment => GDP
				Granger Causality Tests	
17	**Mbulawa (2017)**	Botswana	1985 – 2015	OLS	Domestic Investment => GDP
				VECM	
18	**Sahoo and Sethi (2017)**	India	1990 – 2014	Cointegration Analysis	Domestic Investment => GDP: Long run
				VECM	Domestic Investment <=> GDP: Short run
				Granger Causality Tests	
19	**Samuel Adams et al (2017)**	Senegal	1970 – 2014	ARDL	Domestic Investment => GDP: Long run
20	**Siddique et al (2017)**	Pakistan	1975 – 2015	ARDL	Domestic Investment # GDP

Table 2: Studies related to the relationship between trade openness and economic growth

No	Authors	Countries	Periods	Econometrics Techniques	Keys Findings
1	**Albiman and Suleiman (2016)**	Malaysia	1967 - 2010	Cointegration Analysis	Export => Import

				VAR	
				Granger Causality Tests	
2	**Bal et al (2016)**	India	1970 – 2012	ARDL	Trade => GDP: Long Run
				ECM	
3	**Hussain and Haque (2016)**	Bangladesh	1973 – 2014	Cointegration Analysis	Trade => GDP
				VECM	
4	**Judith and Chijindu (2016)**	Nigeria	1987 – 2014	Cointegration Analysis	Trade => GDP: Long Run
				ECM	Trade # GDP: Short Run
				Granger Causality Tests	
5	**Mohapatra et al (2016)**	India	1970 – 2014	Cointegration Analysis	Trade => GDP: Long Run
				VECM	Trade => GDP: Short Run
				Granger Causality Tests	
6	**Okafor and Shaibu (2016)**	Nigeria	1986 - 2013	ARDL	Trade => GDP: Long Run
					Trade => GDP: Short Run
7	**Rahman and Mamun (2016)**	Australia	1960 - 2012	Cointegration Analysis	Trade # GDP: Long Run
				ARDL	Trade <=> GDP: Short Run
				VAR	
				Granger Causality Tests	
8	**Riyath and Jahfer (2016)**	Sri Lanka	1962 - 2015	Cointegration Analysis	Export => GDP: Long Run
				VECM	Import => GDP: Long Run
				Granger Causality Tests	Export => GDP: Short Run
					Import # GDP: Short Run
					Import # Export: Long Run and Short Run
9	**XU (2016)**	China	1978 - 2008	GMM	Trade => GDP
10	**Bakari (2017)**	Japan	1970 - 2015	OLS	X => GDP
					M # GDP
11	**Bakari and Krit (2017)**	Mauritania	1960 - 2015	Cointegration Analysis	X => GDP: Long run
				VECM	M # GDP: Long run
				Granger Causality Tests	M <=> GDP: Short run
12	**Bakari and Mabrouki (2017)**	Panama	1980 - 2015	Cointegration Analysis	Trade => GDP
				VAR	
				Granger Causality Tests	
13	**Bakari and Saaidia (2016)**	Italy	1960 - 2015	Cointegration Analysis	Export => Import
				VAR	Export # GDP
				Granger Causality Tests	Import # GDP
14	**Berasaluce and Romero (2017)**	Korea	1980 - 2016	Cointegration Analysis	M <=> GDP
				VECM	X # GDP
				Granger Causality Tests	
15	**Chaudhry et al (2017)**	Pakistan	1948 - 2013	Cointegration Analysis	X <=> M
				ARDL	
				VECM	
				Granger Causality Tests	
16	**Dutta et al (2017)**	Bangladesh	1976 - 2014	Granger Causality Tests	Trade <= GDP
17	**Faisal et al (2017)**	Saudi Arabia	1968 - 2014	ARDL	X => GDP
				Granger Causality Tests	M # GDP
18	**Nursini (2017)**	Indonesia	1990 - 2015	Cointegration Analysis	Trade => GDP

19	**Ofeh and Muandzevara (2017)**	Cameroon	1980 - 2013	Correlation Analysis OLS	X => GDP (Positive effect) M => GDP (negative effect)
20	**Ofori-Abebrese et al (2017)**	Ghana	1970 - 2013	ARDL Granger Causality Tests	Trade # GDP

III. Data and Methodology

To determine the impact of domestic investment, exports and imports for economic growth in South Africa, we will use the neoclassical production function, whose economic growth will be expressed by gross domestic product at constant price, domestic investment Will be expressed by gross fixed capital formation at constant prices, imports and exports will be expressed by their exact values at constant price. The sample covers the period 1960 - 2015 and all variables are selected for the 2016 World Bank report.

The augmented production function including domestic investment, exports and imports is expressed as:

$$\mathbf{GDP_t = f(Exports, Imports, Domestic\ Investment)} \quad \mathbf{(1)}$$

The function can also be represented in a log-linear econometric format thus:

$$\mathbf{\log(GDP)_t = \beta_0 + \beta_1 \log(Exports)_t + \beta_2 \log(Imports)_t + \beta_3 \log(Domestic\ Investment)_t + \varepsilon_t} \quad \mathbf{(2)}$$

Where:

- β_0 : The constant term.
- β_1: coefficient of variable (Exports)
- β_2: coefficient of variables (Imports)
- β_3: coefficient of variable (Domestic Investment)
- t: The time trend.
- ε: The random error term assumed to be normally, identically and independently distributed.

Otherwise, and concerning the choice of variables in our model; It is known that there are several variables that can enter the production function by causing an effect on economic growth, such as labor force, human capital, climate change, FDI, renewable energy, pollution and others Factors of influence. But we used these three variables to better explain and better capture the direct impact of exports, imports and domestics investment on economic growth. On the other hand, the effect of the other variables not included in the function (1) is included

in the function of our econometric model and especially in the error term. Since we have known that the error term is known and remains always unknown by containing the effects of the other factors in the form of a residue {function (2)}. Alternatively, another reason that supports the choice of these variables only is that we have used an econometric model that describes economic growth and not an accounting identity since it is impossible in a large country and in the presence of large economic magnitudes, by eliminating the various risks that can appear by non-logical causal economically. Otherwise, in order to react to the estimation of our production function, we are obliged to carry out a set of steps to determine the choice of our econometric model that will be chosen. The first and essential step in our estimation is the determination of the order of integration of each variable (i.e. the determination of the unit root of each variable) and this is done using a set of Tests of stationarity. In our case, we will use the most appropriate test in the majority of empirical studies that test the ADF. The achievement of this step has three kinds. (i) If all variables are stationary, we will use an estimate based on a linear regression. (ii) If all variables are stationary in first differences, we will apply an estimate based on the VAR model. (iii) Finally, if the sample has stationary variables at level and first difference at the same time we will practice the ARDL approach. With regard to the latter kind is very, since it is applied in estimates characterized by the presence of samples of a short period. On the other hand, and concerning the regard of the second kind (Sims's model), It is also characterized by the presence of two kinds that are determined after the implementation of the cointegration analysis using the Johanson test of which, if there is a cointegration relation we will apply the model VECM on the other hand if the test of Johanson proves the absence of a cointegration relation, we will practice the model VAR. Finally, and after each estimate of our chosen model, we always apply a set of tests to check the quality of our estimate and the robustness of our model using diagnostic tests.

IV. Empirical Analysis

1) Tests of the Unit Root

The econometric role of this test insists that for each variable be stationary. Two conditions must be matched:

- ✓ The statistical test of the ADF must be greater than the critical value.
- ✓ The statistical test of the ADF must have a probability less than 5%.

Table 3: ADF Test of GDP

Null Hypothesis: LOG(GDP) has a unit root				Null Hypothesis: LOG(GDP) has a unit root	
Exogenous: Constant				Exogenous: Constant, Linear Trend	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-2.348523	0.1611	-3.414413	0.0601
Test critical values:	1% level	-3.557472		-4.137279	
	5% level	-2.916566		-3.495295	
	10% level	-2.596116		-3.176618	
Null Hypothesis: D(LOG(GDP)) has a unit root				Null Hypothesis: D(LOG(GDP)) has a unit root	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-4.139372	0.0019	-4.526504	0.0034
Test critical values:	1% level	-3.557472		-4.137279	
	5% level	-2.916566		-3.495295	
	10% level	-2.596116		-3.176618	

Table 4: ADF Test of Investment

Null Hypothesis: LOG(INVESTMENTS) has a unit root				Null Hypothesis: LOG(INVESTMENTS) has a unit root	
Exogenous: Constant				Exogenous: Constant, Linear Trend	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-1.567821	0.4918	-2.196917	0.4814
Test critical values:	1% level	-3.560019		-4.140858	
	5% level	-2.917650		-3.496960	
	10% level	-2.596689		-3.177579	
Null Hypothesis: D(LOG(INVESTMENTS)) has a unit root				Null Hypothesis: D(LOG(INVESTMENTS)) has a unit root	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-5.475329	0.0000	-5.486647	0.0002
Test critical values:	1% level	-3.560019		-4.140858	
	5% level	-2.917650		-3.496960	
	10% level	-2.596689		-3.177579	

Table 5: ADF of Exports

Null Hypothesis: LOG(EXPORTS) has a unit root				Null Hypothesis: LOG(EXPORTS) has a unit root	
Exogenous: Constant				Exogenous: Constant, Linear Trend	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-0.413030	0.8993	-1.527306	0.8080
Test critical values:	1% level	-3.555023		-4.133838	
	5% level	-2.915522		-3.493692	
	10% level	-2.595565		-3.175693	
Null Hypothesis: D(LOG(EXPORTS)) has a unit root				Null Hypothesis: D(LOG(EXPORTS)) has a unit root	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-6.129977	0.0000	-6.071357	0.0000
Test critical values:	1% level	-3.557472		-4.137279	
	5% level	-2.916566		-3.495295	
	10% level	-2.596116		-3.176618	

Table 6: ADF of Imports

Null Hypothesis: LOG(IMPORTS) has a unit root				Null Hypothesis: LOG(IMPORTS) has a unit root	
Exogenous: Constant				Exogenous: Constant, Linear Trend	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-0.339276	0.9117	-1.809379	0.6867
Test critical values:	1% level	-3.555023		-4.133838	
	5% level	-2.915522		-3.493692	
	10% level	-2.595565		-3.175693	
Null Hypothesis: D(LOG(IMPORTS)) has a unit root				Null Hypothesis: D(LOG(IMPORTS)) has a unit root	
Augmented Dickey-Fuller test statistic		t-Statistic	Prob.*	t-Statistic	Prob.*
		-6.611121	0.0000	-6.065503	0.0000
Test critical values:	1% level	-3.557472		-4.140858	
	5% level	-2.916566		-3.496960	
	10% level	-2.596116		-3.177579	

The results of the ADF unit root test show that all the variables {Log (Y), Log (K), Log (X) and Log (M)} are stationary in first differences since in the analysis of all these variables, The statistical tests of the ADF are higher than the critical values and have probabilities less than 5% in the order of integration (1). In this case, we can say that the Sims model will be retained.

2) The Analysis of Cointegration

a- The Choice of the Number of the Delay

Before applying the cointegration relation and the estimation of our model, we determine the amount of the delay existing in our studied variables. This step is very important since it consists in determining the amount of the delay economically in our estimation. To achieve this objective, a set of criteria, such as AIC, SC, MQ and FPE is used.

Table 7: Lag Order Selection Criteria

VAR Lag Order Selection Criteria						
Lag	Log L	LR	FPE	AIC	SC	HQ
0	344.4670	NA	1.87e-11	-13.35165	-13.20013	-13.29375
1	388.4634	79.36610*	6.25e-12*	-14.44955*	-13.69197*	-14.16005*
2	399.4527	18.09995	7.70e-12	-14.25305	-12.88940	-13.73196
3	407.1910	11.53171	1.10e-11	-13.92906	-11.95936	-13.17638
4	421.3685	18.90331	1.25e-11	-13.85759	-11.28182	-12.87331

*** 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

The criteria for selecting the information indicate that the optimal number that will be used in our estimation is equal to 1.

b- The Test of the Cointegration of the Johanson

The spread of the Johanson test entangles finding out the number of cointegration relations. To state the number of cointegration relations, we must consider the following hypothesis:

- ✓ If the statistic of the trace is greater than the value criticized then one rejects H0 therefore there exists at least one cointegration relation.
- ✓ If the trace statistic is less than the critiqued value, then H0 is accepted so there is no cointegration relationship

Table 8: Johanson Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesize No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.562782	103.9215	47.85613	0.0000
At most 1 *	0.418367	60.07335	29.79707	0.0000
At most 2 *	0.360673	31.35183	15.49471	0.0001
At most 3 *	0.134289	7.642834	3.841466	0.0057
Trace test indicates 4 cointegrating eqn(s) at the 0.05 level				
*** denotes rejection of the hypothesis at the 0.05 level**				
****MacKinnon-Haug-Michelis (1999) p-values**				

The results of the Johanson test indicate the existence of 3 cointegration relationships; in this case the error correction model will be retained.

3) Estimation of Error-Correction Model

In the estimation of the error correction model, we will determine the impact of domestic investment on economic growth in the long run and the short run.

a- Long Run

The following table shows the results of estimating the equation. If the coefficient of the variable C (1) is negative and possesses a significant probability. This means that all variables in the long-term relationship are significant in explaining the dependent variables. The results

of the estimation by the maximum likelihood method denote the following cointegration relation. The long-term equilibrium relation is presented as follows:

$$LOG\ (GDP) = 0.0329997114658 + 2.16846628364 * LOG\ (INVESTMENTS) + 3.27547129191 * LOG\ (EXPORTS) - 4.1840011778 * LOG\ (IMPORTS)$$

Table 9: estimation of the long run equation

Dependent Variable: D(DLOG(GDP))				
Method: Least Squares (Gauss-Newton / Marquardt steps)				
D(DLOG(GDP)) = C(1)*(DLOG(GDP(-1)) - 2.16846628364*DLOG(INVESTMENTS(-1)) - 3.27547129191*DLOG(EXPORTS(-1)) + 4.1840011778*DLOG(IMPORTS(-1)) - 0.0329997114658) + C(2)*D(DLOG(GDP(-1))) + C(3)*D(DLOG(INVESTMENTS(-1))) + C(4)*D(DLOG(EXPORTS(-1))) + C(5)*D(DLOG(IMPORTS(-1))) + C(6)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.050747	0.013720	-3.698772	0.0006
C(2)	-0.318719	0.243318	-1.309883	0.1966
C(3)	0.023266	0.051405	0.452607	0.6529
C(4)	-0.082475	0.057752	-1.428091	0.1599
C(5)	0.116659	0.047423	2.459974	0.0176
C(6)	-0.001288	0.003036	-0.424250	0.6733

In our case, the correction error term is significant and has a negative coefficient. These prove that in the long run, 1% increase in domestic investment leads to an increase of 2.16846628364% of GDP.

b- Short Run

The objective of the WALD test is to determine that if there is a short-term relationship between the variables used.

Table 10: VEC Granger Causality/ Block Exogeneity Wald Tests

VEC Granger Causality/Block Exogeneity Wald Tests			
Dependent variable: D(DLOG(GDP))			
Excluded	Chi-sq	df	Prob.
D(DLOG(INVESTMENTS))	0.204853	1	0.6508
D(DLOG(EXPORTS))	2.039443	1	0.1533
D(DLOG(IMPORTS))	6.051470	1	0.0139

4) Checking the Quality of Estimation

a- Diagnostics Tests

The aim of applying a set of diagnostic tests after each empirical investigation is to check the robustness of our model and to verify the solidity of our estimate.

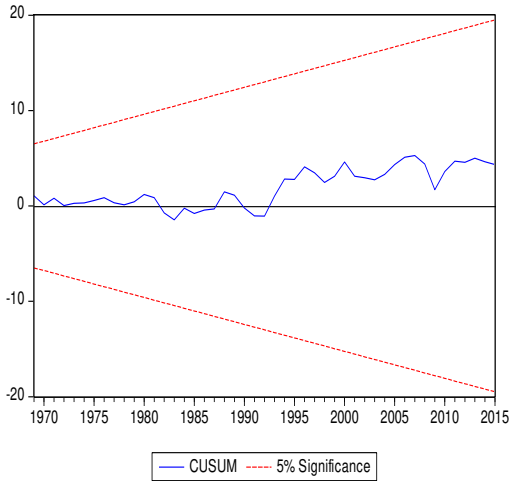
Table 11: Diagnostics Tests

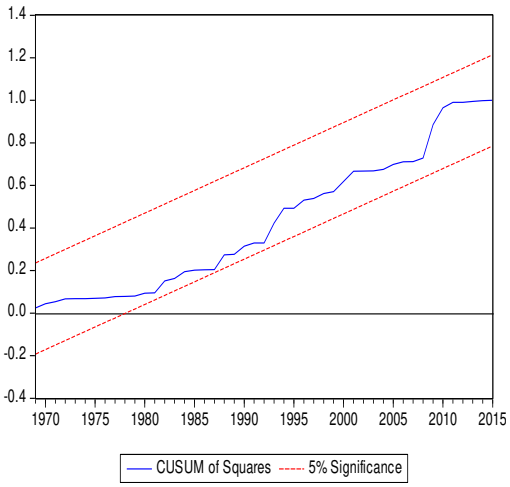
Heteroskedasticity Test: Harvey			
F-statistic	1.466116	Prob. F(12,40)	0.1778
Obs*R-squared	16.19022	Prob. Chi-Square(12)	0.1827
Scaled explained SS	16.27023	Prob. Chi-Square(12)	0.1792
Heteroskedasticity Test: Glejser			
F-statistic	1.650864	Prob. F(12,40)	0.1162
Obs*R-squared	17.55464	Prob. Chi-Square(12)	0.1299
Scaled explained SS	15.86503	Prob. Chi-Square(12)	0.1975
Heteroskedasticity Test: ARCH			
F-statistic	2.470843	Prob. F(1,50)	0.1223
Obs*R-squared	2.448671	Prob. Chi-Square(1)	0.1176
Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.326836	Prob. F(1,46)	0.2553
Obs*R-squared	1.485887	Prob. Chi-Square(1)	0.2229
F-statistic	3.775165	**Jarque-Bera**	1.027197
Prob(F-statistic)	0.005902	**Probability**	0.598339

Diagnostic tests indicate that the overall specification adopted is satisfactory. The tests performed to detect the presence of Breusch-Pagan-Godfrey in the estimated equation did not reveal any problem of heteroskedasticity at the 5% threshold.

b- VAR Stability

Finally we will stratify to harness the test CUSUM and the test CUSUM of SQUARES, these tests inspire it possible to look the stability of the model estimated over time.





The tests results of the stability VAR (CUSUM Test and CUSUM of Square Test) bid that the Modulus of all roots is less than unity and lie within the unit circle. Accordingly we can conclude that our model the estimated VAR is stable or stationary.

V. Conclusion

The aim of this study was to determine the impact of export, import and domestic investment on economic growth in South Africa during the period of 1960 to 2015. The cointegration analysis, VECM model and the Granger Causality tests are used here to look into the influence of domestic investment, export and import on economic growth in the long run and in the short run. According to the results, we found in the long term that export and domestic investment have positive effect on economic growth. However, import has a negative effect on economic growth. In the short run, our empirical results show that only import can cause economic growth. These results are expressed by the robust strategy given by the State in the development of investments and the improvement of policies for the refinement of exports. Otherwise the low wages of the workers and the wealth in the storage of the very rare and very exceptional natural resources bear the results that the domestic investments and the exports have a positive influence on the economic growth in South Africa. Otherwise imports are directly linked to consumption and not to production, which explains the negative effects of imports on economic growth. To eliminate the barriers of being a developed country, South Africa must reduce these imports and must refine and develop their agricultural sector. Since the added value of agriculture is 3%. And this is very low for a country with a favorable environment and high-level capacities to invest in agriculture. On the other hand, agriculture is the only source for eradicating poverty and reducing unemployment. Laden in particular to get a decline in the value of imports and these negative shocks. So we can say that South Africa needs a new agricultural revolution.

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