Acta
Universitatis
Danubius

ŒCONOMICA

South African Job Creation, a Myth or Reality? The Role of Economic Injections as Solution to The Employment Issues

Thomas Habanabakize[1], Zandri Dickason[2]

Abstract: The paper investigated the effect of economic injections components (exports, government expenditure and domestic investment) on South African employment growth. The study employed quarterly secondary data for the period 2002-2021. The ARDL, ECM and Granger causality approaches were utilized to determine the long run, short-run and causality relationships amongst variables. The results indicated that the long-run growth in both exports and government expenditure leads to employment growth whilst a rise in domestic investment reduces employment levels. Irrespective of long run results, the domestic investment significantly creates jobs in the short term. Additionally, the study results suggested a bidirectional causality between employment exports and a unidirectional from government spending towards employment. Based on the aforementioned results, the study concluded that economic injections play a crucial role in curbing unemployment growth in South Africa. Therefore, the South African government should induce and strengthen exports oriented policies and increase its spending on production-related activities rather than consumption expenditure.

Keywords: employment; economic injection; job creation; unemployment; South Africa.

JEL Classification: E24

1. Introduction

Most economic activities depend on income and expenditure levels, and any economic activity performed with the economy relates to either injection or leakage. In other words, money invested or introduced within the economy to improve economic activities perceived as an injection while the money saved or taken out relates to leakage or withdrawals. From Keynes (1936) and Samuelson (1948)

[1] PhD, North-West University, South Africa, Address Vanderbijlpark, South Africa, E-mail: 26767007@nwu.ac.za.
[2] Professor, North-West University, Potchefstroom, South Africa, Potchefstroom, 2520, South Africa, Corresponding author: Zandri.Dickason@nwu.ac.za.

perspective, assessing the influence of leakages and injections plays a significant role in macroeconomics as the former remain drivers or determinants of a country's level of employment (Kyer & Maggs, 2011).

South Africa's society has been and is still facing various challenges that include inequality, poverty, sluggish economic growth and a high unemployment rate. These challenges are not recent as they existed within the country even before the democratic era during the apartheid regime under economic sanctions (du Plessis & Smit, 2006). In South Africa, the growing rate of unemployment has been a notable issue. This is elucidated by the statistics of the fourth quarter of 2020 where the unemployment rate reached the level of 32.5 percent surpassing the acceptable unemployment that is 5 percent (Kimberly, 2019; Statistics South Africa (Stats SA), 2021). Historically, South Africa's unemployment rate was also high in the 1980s due to the apartheid's discriminatory policies that excluded the majority of black people from entering the workforce (South Africa History Online, 2019). Unfortunately, even during the post-apartheid era which is democratic South Africa, the country remains unable to create enough jobs for its labour force. This becomes an obstacle to the holistic economic growth and export growth which experiences a motionless level for years (Afolayan et al., 2019).

Notwithstanding unemployment growth, in an attempt to solve this issue, the South African government created and increased projects, initiatives and strategies to assist in jobs creation. These include Employment Tax Incentive that aimed to increase the number of youth in workforce participation (Ebrahim et al., 2017); Public-Private Growth Initiative to stimulate investment, sustain and create more jobs (The presidency, 2019), Expanded Public Works Programme to create to opportunities and income for the poor (South Africa, 2017). Some other initiated projects comprise the Accelerated and Shared Growth Initiative (ASIGISA), Growth, Employment, and Redistribution program (GEAR) and the Reconstruction and Development Program (RDP). Despite the aforementioned initiatives and projects, unemployment growth remains a threat to South African social and economic conditions (Afolayan et al., 2019)

Additionally, in comparison with other middle-income economies, South African exports have been stagnant since the early 1990s (Hausmann, 2008). This might be because during the apartheid governance the country's economy was under sanctions resulting in low mobility for goods and services. Even after the end of apartheid, the South African exports level continue to struggle. As one of the employment solutions, Habanabakize (2019) and Taraki and Arslan (2019) underscore that gross capital formation or domestic investment can assist in creating new job opportunities and increase the country's production level. Furthermore, these authors emphasise that investors perceive greater opportunities in the economy or country with high jobless levels as labour becomes less expensive compared to countries with a high

rate of employment. Consequently, the linkage between employment, domestic investment, economic growth and exports have become a research niche for various researchers and scholars (Statistics South Africa, 2019; World Bank, 2019).

This study's research problem is twofold. Firstly, the research question emanates from a high level of unemployment and struggling export level in South Africa. Besides the history of unemployment growth in South Africa, the 2008 financial crisis and the 2020 Coronavirus pandemic negatively impacted South Africa's economy and worsened the unemployment issue. Since 2008, the South African economy underwent three technical recessions followed by an overwhelming situation created by Covid-19 (Statistics South Africa, 2019; International labour organisation, 2020). Owing to Covid-19, South Africa's economy redhead its highest unemployment rate of 32.5 percent that has never experienced since 1900 (Stats SA, 2021). Regarding these challenges, improved economic injections (domestic investment, government expenditure and exports) are expected to bring a solution to the issue of unemployment growth.

Secondary, the research question emanates from current literature on economic injections namely domestic investment, government expenditure and exports (Chipaumire et al., 2014; Habanabakize, 2019; Nepram, 2021; Taraki &Arslan, 2019). Most of these studies focused on the effect of export, investment and government spending on holistic economy and not specifically on employment. Additionally, their findings are controversial as some support a positive relationship while others support an inverse relationship among variables.

2. Literature Review

2.1. Overview of Theoretical Aspects

A better start to understand the study aims to discuss the theoretical linkage that exists between gross capital formation (domestic investment), government expenditure, exports and unemployment. The most known economic theory that highlight unemployment issues are Classical, Harrod–Domar, Keynesian theory and the Talance theory of capital formation (domestic investment). The Classical theory argues that the government intervention within the economy is irrelevant as any disturbance in the economic and business cycle corrects itself in the long run. Changes and development in a given economy are generated by free markets. The role of government remains the provision of peace and security that enables and create a conducive environment for investors (Edwards, 1959, Chipaumire et al., 2014). Additionally, the classical theory stipulates that without any policy or strategy the issue of high unemployment can disappear by itself (Chaudhary, 1994; Limosani & Monteforte, 2017). Applying the classical theory on the South African case, all economic related issues including growing unemployment would be left alone the

time would bring the right solution in due time and the economy will return to full employment by itself. In contrast, the Keynesian theory advocates that the lack of sufficient aggregate demand generates unemployment growth. Consequently, economic authorities should initiate adequate strategies and policies that include expansion of the monetary and fiscal policy to solve the unemployment issue. This is because the proponents of the Keynesian theory emphasise that high unemployment results from inappropriate policies and a mismatch between available skills and required skills in the labour market (Banda et al., 2016). Moreover, Keynesian economists argue that an increase in government expenditure improve the consumers' purchasing power and thus stimulate aggregate demand for goods and services. If more goods and services are demanded, more labour is also demanded and the unemployment rate is reduced, ceteris paribus (Chipaumire et al., 2014). Besides the government monetary injection, government expenditure on infrastructure allows creates enabling environment for public sectors which play an indispensable role in job creation.

The Harrod–Domar theory is another economic theory diverts from both the Keynesian and classical school of thoughts. This theory acknowledges domestic investment or capital formation growth as an imperative requirement for job creation and employment growth (Todaro & Smith, 2006; Yoshino et al., 2019). The theory emphasises the role of capital supply in generating more income through the multiplier effect to economic growth, increase productivity and create more jobs within the economy (Limosani & Monteforte, 2017; Makris & Stavroyiannis, 2019). Additionally, the balanced theory of capital formation creates a linkage between capital formation or domestic investment and employment level. This theory is more applicable within developing countries, like South Africa, with high populations and slow economic growth (Taraki & Arslan, 2019). The proponent of the theory asserts that for production and employment purposes, the government should increase its investment in capital goods (Krishna & Perez, 2005) reason being that if capital goods are spread in all economic sectors more jobs will be created (Jhingan, 2012).

Another theory that can link the aforementioned theories with employment is the Trade Liberalisation theory. This theory argues that the liberalisation of trade involves a bilateral effect on labour markets, that is job creation and job destruction. Firstly, countries of a firm that focus on importing competitive goods and services end in exiting the markets and laying down its workers. Secondary, firms or countries that dominate and gain from trade get an opportunity to expand and create new jobs (Feenstra et al., 2019). The Keynesian theory also underpins market demands as a source of employment. Therefore, if more of a country's goods and services are demanded in global markets, new and more labour is solicited to meet the demand requirements (Tcherneva, 2008; Dizaji & Badri, 2014; Bobeica et al., 2016).

2.2. Empirical Literature on the Linkage Between Employment and Economic Injections

Various studies include Cray (2011), Estache et al. (2012), Leigh and Neill et al. (2011), and Maisonnave et al. (201) were conducted to determine the effect of government spending on employment in different groins and countries. The finding of these studies contrasted owing to the method employed and the geographical location of the study. For instance, a large portion of government expenditure in developing countries is often spent on consumption while the one in developed countries is allocated for domestic investment. Therefore, the government expenditure in developing countries is more likely to be spent on various social issues while in developed countries is spent on economic development and job creation (Habanabakize, 2016). In this regard studies of Amjad (2005) and Holden and Sparrmany (2016) analysed the implication on government expenditure on employment and found a positive relationship between the two economic variables. On the other hand, the government in form of subsidies f young small and medium enterprises may simultaneously create and destroy jobs depending on the enterprise's maturity (Kerr et al., 2014). Besides finding suggesting that government expenditure has either a passive or a negative impact on employment, the study of Afonso and Sousa (2012) revealed that the effect of government on employment depends on the amount spent. If a small amount is spent, then the government expenditure has no significant effect on employment.

Although the government is generally perceived as the major creator of employment, domestic investment from private and public sectors play an indispensable role in generating jobs. Studies by Adelino et al., (2014), Byiers et al. (2015), Shi and Michelitsch (2013), and Psaltopoulos et al. (2011) have shown that the best way to increase the number of jobs is to increase investment level as the later creates different types of jobs within different economic sectors. However, if the investment can also lead to employment destruction if investing in one sector requires taking resources from another sector or if the main reason for investment growth is capital and technological production-based rather than labour intensive.

Using the Indonesian case Aswicahyono et al. (2014) analysed the relationship between exports and employment. Findings revealed that more quantity of goods and services leads to a country's economic growth and thereafter creates more jobs. Similar results were found by Dizaji and Badri (2014) in Iran where employment was found to increase by 1.6 percent as a result of 1 percent increases in the exports level. The relationship between exports and employment is not unidirectional. The findings of Sousa et al. (2012) suggested that in the EU country members, not only exports growth generate employment, the latter also boost the level of exports. In addition, besides creating jobs, exports stimulate and sustain employment. Exports growth in one economic sector such as manufacturing can stimulate job creation in

other sectors such as agriculture, construction and mining (Nguyen, 2015). Country to the aforementioned studies that stipulate the positive effect of exports on employment, some other studies indicated that export growth can also encumber employment growth. Various studies (Feenstra & Hong, 2007; Ezell, 2012) indicated that export growth from capital and technology growth results in job destitution. Additionally, export growth can create employment in one sector and destroy jobs in the other if it results from the shift of employment from one sector to another or an increase in working hours (Kiyota, 2011).

Grounded on the reviewed literature, one can conclude that conflicting results may exist between employment growth and economic injections. While some findings support a positive relationship among the aforementioned variables, others revealed an inverse relations ion amongst these variables. To the best knowledge of the researchers, no study was conducted using the ARDL model to investigate the linkage between economic injections and employment in South Africa. Therefore, it imperative to conduct a study that employs a single equation or ARDL model to assess the effect of economic injection on employment growth in South Africa. The subsequent section discusses the methodology and approaches employed by the study.

3. Methodology

3.1. Sample and Data Description

Quarterly time series data from 2008 to 2020 was utilised for empirical analysis. The sample period starts in 2008 to consider the effect of structural changes resulted from the 2007-2008 financial crisis. The selected variables comprise employment and the three main components of economic injections, namely total exports, government expenditure and domestic investment. The employed variables acronyms their descriptions, measurements and source are exhibited in Table 1.

Table 1. Acronyms and Explanations

Acronym	Variable name	Description	Measurement	Data source
EMP	Employment	Total employment in the non-agricultural sector	Number of employed people (thousands)	Quantec EasyData
EXP	Total exports	Total exports of goods and services	Millions of rand	South African Reserve Bank

GOV	Government expenditure	Total government expender	Millions of rand	South African Reserve Bank
INV	Investment	Domestic investment	Millions of rand	South African Reserve Bank

3.2. Model Specification

Since the study objective is to analyse the effect of economic injections on employment, the autoregressive distributed lag (ARDL) model was selected as an accurate approach for long-run and short-run relationship. Considering variables presented in Table 1, the employment function was expressed as follows:

EMP = f (EXP, GOV, INV)   (1)

The main reason for the selection ARDL model was based on its robustness in providing accurate long-run relationship using a single equation (Pesaran & Shin, 1998). Additionally, the ARDL model is applicable regardless of whether variables are I(0), I(1) or a combination of the two (Pesaran, Shin & Smith, 2001). Furthermore, the ARDL model allows each variable, in the system, to have its optimal number of lags (Habanabakize et al., 2019). From equation 1, the following ARDL model was generated:

$$\Delta LEMP_t = \propto_0 + \sum_{j=1}^{q} \propto_j \Delta LEMP_{t-j} + \sum_{j=0}^{q1} \beta_j \Delta LEXP_{t-j} + \sum_{j=0}^{q2} \lambda_j \Delta LGOV_{t-j}$$
$$+ \sum_{j=0}^{q3} \gamma_j \Delta LINV_{t-j} + \delta_1 LEMP_{t-j} + \delta_2 LEXP_{t-j} + \delta_3 LGOV_{t-j} + \delta_4 LINV_{t-j} + u_t$$
(2)

Where: LEMP is the log of employment; LEXP is the log of exports; LGOV is the log of the government expenditure and LINV is the log of the domestic investment. $\propto_j, \beta_j, \lambda_j, \gamma_j$ and δ_j are coefficients for estimation, and the term t refers to data period. Lastly, $\propto_0$ and u_t denote the constant and the error term respectively.

Based on Equation 2, the subsequent are the hypothesises set to test for the cointegrating relationship among variables:

Null hypothesis (H_0) - no co-integration: $\delta_1 = \delta_2 = \delta_3 = \delta_4 = 0$

Null hypothesis (H_A) - co-integration exists: $\delta_1 \neq \delta_2 \neq \delta_3 \neq \delta_4 \neq 0$

These null hypotheses were established using F-testing applied to Equation 2. Normalising *LEMP* by F_{LEMP} (*LEMP/ LEXP, LGOV, LINV*); two critical bounds were compared to conclude whether a long-run relationship exists among the underpinned variables when the regressors are I(d). That is $0 \leq d \leq 1$. In this case,

the values of lower critical bounds indicate that the regressors are I(0) whilst the values of the upper bounds indicate that the regressors are I(1). If the computed F-value is greater than the upper bound critical values, the null hypothesis is rejected and the conclusion is that a long-run relationship exists among variables. However, if the computer F-value is lower than the values of the lower bounds, the null hypothesis is not rejected and the conclusion is that no long-run relationship among variables. In case the computed F-value falls between the lower bound and upper bound critical values unless further information is provided, the results remains inconclusive (Pesaran et al., 2001).

After establishing the presence of long-run relationship between variables, the conditional ARDL (p, q1, q2, q3) model for $LEMP_t$ was established as follow:

$$LEMP_t = \propto_0 + \sum_{j=1}^{p} \delta_1 LEMP_{t-j} + \sum_{j=0}^{q1} \delta_2 LEXP_{t-j} + \sum_{j=}^{q2} \delta_3 LGOV_{t-j} + \sum_{j=0}^{q3} \delta_4 LINV_{t-j} + u_t \tag{3}$$

If the long run is established in Equation 2, the following step is to estimate the corresponding error correction model (ECM) which is specified as follows:

$$\Delta LEMP_t = \propto_0 + \sum_{j=1}^{q} \propto_j \Delta LEMP_{t-j} + \sum_{j=0}^{q1} \beta_j \Delta LEXP_{t-j} + \sum_{j=}^{q2} \lambda_j \Delta LGOV_{t-j} + \sum_{j=0}^{q3} \gamma_j \Delta LINV_{t-j} + \vartheta ecm_{t-1} + u_t \tag{4}$$

Where $\propto, \beta, \lambda$ and γ are the short-run coefficients and ϑ is the error correction term (speed of adjustment to the long-run equilibrium).

When a cointegration relationship exists between two or more time series, there is also a possibility of cassation between the analysed variables; thus it is important to test the direction of that causality. Additionally, some theoretical and empirical literature has suggested that the existence of a causal relationship between employment and economic ejection components (Wanjala & Were, 2009; Habanabakize & Muzindutsi, 2015; Krugman & Wells, 2015; Since the study variables are integrated of the same order {I (1)}, the ordinal Granger causality is the appropriate model to determine causation between variables (Granger, 1969). The subsequent equations estimated the Granger causality test:

$$X_t = \sum_{j=1}^{m} a_j X_{t-j} + \sum_{j=1}^{m} b_j Y_{t-j} + \varepsilon_t \tag{5}$$

$$Y_t = \sum_{j=1}^{m} c_j X_{t-j} + \sum_{j=1}^{m} d_j Y_{t-j} + \eta_t \tag{6}$$

Where ε_t and η_t are considered to be two uncorrelated error terms of employed time-series.

The null hypotheses for Equations 5 and 6 suggest that X does not cause changes in Y and vice versa, whilst the alternatives suggest that X causes changes in Y and Y causes changes in X.

4. Estimation Procedures and Empirical Results Discussion

4.1. Unit root tests

Unit root test is an important step that allows a researcher to determine variables integration order and selection of the appropriate model for cointegration analysis. The current study employed the Augmented Dickey-Fuller (ADF). The null hypothesis (H_0) for the ADF test suggests that a variable has a unit root while the alternative (H_1) suggests that the variable is stationary. Following the results presented in Table 2, the H_0 for all variables is rejected at the first difference. Therefore, all variables are integrated of the first order {I(1)}.

Table 2. ADF Unit Root Results

Variables	Level		1st Difference	
	Without trend	**With trend**	**Without trend**	**With trend**
EMP	0.9753	0.1617	0.0000**	0.0000**
GOV	0.9785	0.4411	0.0151*	0.0460*
EXP	0.4444	0.0324*	0.0000**	0.0000**
INV	0.9339	0.5793	0.0000**	0.0000**

Note: ** & * p-value significant at 1% & 5% respectively

4.2. Long-run Estimation

When variables are stationary at first difference or I(1), both the Autoregressive Distributed Lag (ARDL) the Johansen and Juselius test for cointegration approaches are applicable (Menegaki, 2019) for long-run analysis. However, the former approach (ARDL) was selected because contrary to the Johansen and Juselius test for cointegration that focuses on system equations, the ARDL approach utilises a single and reduced form equation to assess long-run relationship (Pesaran & Shin, 1999) and accurate results. Under the ARDL model, the bound test cointegration was employed to determine the presence of a long-run relationship among variables of interest. using the Akaike Information criteria (AIC), the best model selected was the ARDL (1, 1, 0, 1). The model included both trends and intercepts, and the bound cointegration results are represented in Table 3. The computed F-statistics was found higher than all the upper bound values at a 5 percent significant level. Thus, the null hypothesis of no cointegration among variables was rejected. This implies that a long-run relationship exists between employment and the components of economic injections (government expenditure, investment and exports).

Table 3. Bounds Testing Based on Equation (1)

F-statistic	11.06055	
Critical Value Bounds		
Significance	**I(0) Bound**	**I(1) Bound**
10%	3.47	4.45
5%	4.01	5.07
1%	5.17	6.36

$$LEMP = 13.3278 + 0.2243LEXP + 0.0162LGOV - 0.0513LINV + 0.051Trend$$
(7)

In Equation 7, the long-run coefficients indicate that exports growth and government expenditure have a positive effect on employment whilst an inverse relationship exists between investment and employment level. In the long run, if exports and government were to increase by one percent, employment would respond by growing by 0.2243. On one hand, government expenditure enhances jobs as the money spent by the government can be used to create jobs through building new and renovation of the existing infrastructure, subsidies to private businesses where many workers are employed, education and training that increases worker's competitiveness and productivity (Lee et al., 2019). The effect of government expenditure on employment is supported by economic theories and empirical findings (Keynes, 1936; Amjad, 2005; Habanabakize, 2016; Holden & Sparrmany, 2016). The higher is the level of government expenditure the high is the level of job opportunities. This is elucidated by the significant impact of government expenditure on economic growth and other economic activities that involve labour participation. On the other hand, a one percent increase in export level leads to a 0.0162 increase in employment. A positive relationship between exports and employment is explained by the theory stating that jobs are destroyed with importing country and created in exporting country. A high level of export implies high demand for domestic goods and services. Other things being the same, more demand for goods and services is associated with more demand for labour. If South African products and service are highly demanded abroad producer are required to increase production and this is done by increasing the number of workers. Other empirical studies have also reached the same conclusion that a positive association exists between employment and export (Sousa et al.*,* 2012; Aswicahyono et al., 2014; Dizaji & Badri, 2014; Nguyen, 2015). Not only exports create jobs it also assists in sustaining the existing jobs.

Contrary to government expenditure and exports, the finding of this study revealed that a one percent increase in domestic investment or capital formation causes employment to decline by 0.0513. These results appear to contradict the Keynesian theory whose argument suggests a positive relationship between the two economic variables. However, it is important to remember that the theory was written in 1936 where labour was considered as one of the major factors of production. In the current

economy, capital and technology growth can increase production and be considered more effective than labour. Based on the study findings, one can conclude that more investment in South Africa is oriented towards capital and technological improvement. In other words, the South African economy is shifting from labour-intensive to capital intensive. This study's finding opposes those of Adelino et al. (2014), Byiers et al. (2015), Shi and Michelitsch (2013), and Psaltopoulos et al. (2011) stating a positive relationship between investment and employment growth. However, a similar result was found by Suleiman et al. (2017) stipulating an inverse relationship between domestic investment and employment growth in Tanzania.

4.3. Short-run Dynamics

After assessing the long-run relationship, the short-run dynamics were estimated through the error correction model (ECM). The result displayed in Table 4 shows that the error correction term (ECT) is negative and significant at a 0.01 significant level. The coefficient of -0.456452 indicates that nearly 46 percent of shocks in the model are eliminated each quarter. It, therefore, requires about two quarters to restore long-run stability in employment level when only the components of economic are considered. This speed of adjustment is too quick suggesting the power of economic injections on employment growth. The short-run coefficients indicate that, despite its long term negative impact, domestic investment possesses a significant and positive effect on the employment level. Exports and government spending are not significant to influence short term changes in employment.

Table 4. ECM and Short-Run Dynamics

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LEXP)	-0.043049	0.037295	-1.154296	0.2552
D(LGOV)	0.007379	0.051148	0.144275	0.8860
D(LINV)	0.123227	0.049267	2.501204	0.0166*
@TREND	0.002321	0.000466	4.977229	0.0000**
CointEq(-1)	-0.456452	0.086425	-5.281497	0.0000**

Note: ** & * p-value significant at 1% & 5% respectively

4.4. Causality between the Economic Injections and Employment

The presence of long-run relationship among variables implies that there should a causal relationship between, at least, one component of economic and employment level in South Africa. Therefore, the Granger causality approach was used to assess the causal relationship between dependent and independent variables. Results in table 4 display a bidirectional causal relationship between exports (LEXP) and employment levels. Additionally, a unidirectional causality assists from government expenditure (LGOV) towards employment. No causation was found between employment and domestic investment.

Table 5. Granger Causality Test

Null Hypothesis:	F-Statistic	Prob.
LEXP does not Granger Cause LEMP	8.62823	0.0007**
LEMP does not Granger Cause LEXP	8.12514	0.0010**
LGOV does not Granger Cause LEMP	3.53202	0.0382*
LEMP does not Granger Cause LGOV	0.63945	0.5326
LINV does not Granger Cause LEMP	0.36132	0.6989
LEMP does not Granger Cause LINV	1.25501	0.2955

Note: ** & * p-value significant at 1% & 5% respectively

4.5. Diagnostic Tests

Residual diagnostic tests were performed to check the strength of the ARDL and T-Y models and the accuracy of the study findings. Table 6 exhibits the results of the diagnostic for the estimated models. The null hypothesis no serial correlation and no heteroscedasticity was not rejected, suggesting that the residuals are not serially correlated and are homoscedastic. The Jarques-Bera test indicated that the residuals of the study models are normally distributed. Additionally, Ramsey RESET results indicate that the model is well specified. Furthermore, both the CUSUM and CUSUMSQ graphs revealed that the model parameters are stable. This implies that the relationship between employment and economic injections was consistent during the sample period.

Table 6. Diagnostic Results

Test	Null hypothesis (H_0)	Probability	Conclusion
LM	No serial correlation	0.8491	H_0 is not rejected
JB	Normality in residual	0.8250	H_0 is not rejected
White	No heteroscedasticity	0.1882	H_0 is not rejected
Ramsey RESET	The model is correctly specified	0.0968	H_0 is not rejected
CUSUM	The model is stable		The model is stable at a 0.05 significance level
CUSUMSQ	The model is stable		The model is stable at a 0.05 significance level

Conclusion and Implication

Please The study aimed to dissect the effect of the components of economic injection on employment in South Africa. The reviewed empirical theories provided equivocal results on the relationship between economic injections on employment/unemployment rate. Therefore, it was indispensable to conduct an empirical analysis to determine the relationship between the underpinned variables focusing on the South African economy. Using the ARDL model and bounding

cointegration, the empirical findings revealed that growth in the export level and government expenditure increase employment in South Africa. However, it was found that a long-run growth of domestic investment causes employment to decline. Domestic investment has only a significant and positive employment in the short run. This implies that the long term investment expenditure is oriented capital and technological improvement at the expense of labour employment. Additionally, causality results indicated that a bidirectional causal relationship exists between employment and exports.

From a policy point of view, the study recommended that the South African government should induce and strengthen exports oriented policies and increase its spending on production growth rather than consumption. Additionally, given that a high level of unemployment in South Africa may also result from a mismatch between required skills in the labour market and available labour skills, government expenditure should also be oriented towards training and skills development to minimize or close the gap between job requirement and available skills.

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