

AN ECONOMETRIC ANALYSIS ON THE IMPACT OF BUSINESS CONFIDENCE AND INVESTMENT ON ECONOMIC GROWTH IN POST-APARTHEID SOUTH AFRICA

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—Abstract —

Over the last decade, the South African economy has endured lacklustre economic growth. Prevailing economic conditions have been characterised by a weak level of consumer demand, falling business investment and significant policy uncertainty. Although various factors have an underlining effect on this environment, the significance of low business confidence has recently come to the fore. The primary objective of the paper was to analyse the relationships between business confidence, investment and economic growth in the South African economy. A quantitative research approach using quarterly time series data from 1995Q1 to 2017Q4 was used. An autoregressive distributed lag (ARDL) model was employed in order to determine the long- and short-run effects of business confidence and investment on economic growth in the country. The results of the paper reveal a significant long-run relationship between economic growth levels in the South African economy and the independent variables. Results suggest that a one percent increase in confidence levels could lead to a 0.23 percent increase in growth, while a one percent increase in investment could contribute 0.34 percent towards economic expansion. Short-run coefficients indicate that growth levels are significantly positively affected by current business confidence levels as well as lagged investment activity. Results from the Toda-Yamamoto (T-Y) approach of Granger causality further confirmed that the BCI acts as a key leading indicator for investment and growth in the economy. Based on the findings, key strategies directed towards the promotion of growth and investment must revolve around the creation of an enabling environment for both firms and investors alike.

Keywords: Economic growth, business cycles, business confidence; domestic investment, South Africa

JEL classification: C01, E22, E32

1. INTRODUCTION

For the past ten years, the South African economy has suffered under the prevalence of a subdued economic growth path (World Bank, 2018). Even though forecasters anticipated an improved financial and real sector outlook since the end of the financial crisis in 2007, the country, unlike many of its developing counterparts, has struggled to attain pre-crisis growth rates. Instead, the prevailing economic environment has been earmarked by various constraining aspects including low levels of consumer spending, subdued business investment and a significant amount of policy uncertainty (OECD, 2017). Among these, the current subdued business climate in particular has been a major concern. In fact, since 2015, private investment (which accounts for 60% of total investment) has been contracting, while performances in major economic sectors such as manufacturing, mining, as well as construction have been poor and unable to foster much needed job creation (National Treasury, 2018).

Although various factors have an underlining effect on the business environment, more recent studies have come to acknowledge the significance and impact of both consumer and business confidence in this regard (De Jager, 2017). The latter, especially, has received extensive interest in the investment and business cycle framework, primarily due to the acknowledgement of the role of expectations in economic activity (ECB, 2013). Given its importance, many have attempted to capture business sentiment in the form of confidence indices, some of which have become important indicators used to predict investment trends and business cycle activity. Nevertheless, research regarding the impact of confidence on these activities remains controversial, mainly due to the difficulties in measuring its importance empirically and truly understanding the endogenous nature of these variables (Barsky & Sims, 2012). As such, the paper seeks to add to the body of knowledge on the role that business sentiment plays in economic processes, especially within the South African context. In doing so, the paper has the primary objective of analysing the relationships between business confidence, investment and economic growth in the South African economy. Moreover, it also tests the

applicability of the selected business confidence index (BCI) as leading indicator of the other variables in the paper.

2. LITERATURE REVIEW

The economic setting of any nation is a very intricate situation; its correct framework necessitates an extensive analysis of different variables influencing economic growth (De Jager, 2017). Among these, the relationship between investment and economic expansion has received a significant amount of interest over the years. From the early 18th century, the importance of investment for economic growth and development of a country has been the centre of debates between economists and policymakers (Amir, Zaman & Ali, 2012). In fact, both the Classical and Marxist schools of thought stressed the significance of capital formation and accumulation in improving economic output (Anwer & Sampath, 1999). This is because investment generates new capital goods, which expand capital stock, augmenting the productive capacity of an economy (Romer, 2001). At the same time, a growing economy encourages and attracts investments. Since it frequently takes time to arrange labour and build capital stock, firms will expand employment and boost investment presently in anticipation of future economic growth (Den Haan & Kaltenbrunner, 2009).

Domestic investment, in particular, has been an important driver in the process of economic growth and development of a country (Adhikary, 2011). It in fact plays a dual role in the economy as part of aggregate demand, and enlarges a nation's stock of productive assets. Aside from that, Firebaugh (1992) maintains that domestic investment is more likely to build a relationship within the domestic industries, further fuelling long-term growth. Nevertheless, a study by Kendrick (1973) contends that investment does not ensure economic growth, rather, there ought to be an efficient allocation of resources from industries with more productivity to those with low productivity. In spite of this, consensus on the causal associations amid investment and economic growth has proven controversial. For instance, Blomstorm, Lipsey and Zejan (1994) found that capital formation does not cause economic growth; instead, the causal direction runs from economic growth to capital formation. On the other hand, some studies (Omri & Kahouli, 2014) found bi-directional causality between domestic investment and economic growth, while others (Lean & Tan, 2011) found no proof of a causality between domestic investment and growth.

Given the aforementioned, the investment-growth nexus is not always easy to comprehend. Even though investment is viewed as somewhat independent, it is contingent on exogenous factors, for example the state of confidence on an economy (Driver & Moreton, 1992). By and large, one of the rudimentary standards in economics is that expectations impact decisions (Gennaioli, Ma & Shleifer, 2015). In particular, macroeconomic factors have a significant influence on a firm's decision to invest. However, according to Van der Walt and de Wet (1995), of all the factors that influence investment decisions, expectations are the most essential. Firms therefore commonly assess investment opportunities by figuring expected profit and the time it will take to recover the expenses incurred on capital. This suggests that variations in expectations about future economic performance are essential determinants of fluctuations in the economy, and therefore, business cycle activity (Banerjee, Kearns & Lombardi, 2015). Consequently, expectations shape business confidence and form essential early '*warning/leading indicators*', which reflect the anticipation of economic events that are most likely to occur (Luong & Vixathep, 2016).

Based on this significant relationship, various composite indices have been constructed with the aim of quantifying and capturing the private sector's assertions regarding the underlining economic conditions. From a South African perspective, these include indices constructed by the South African Chamber of Commerce and Industry and Bureau of Economic Research (BER). Luong and Vixathep (2016:2) assert that these indicators "*anticipate the perception of the business community on the future prospects of capital investment and employment as well as prices and their eventual impact on demand*". At the same time, the BCIs of consecutive periods assist with identifying repetitive developments, patterns, changes and the setting up of economic conjectures (Laubscher, 2003). Business confidence from these views thusly is influenced by the business cycle.

While the construction of these indices and the comprehension on their relationship with business cycle activity is still novel in economic discourse, the significance of changes in confidence as driving force behind business cycles and aggregate economic activity has been expressed from the earliest of views (Pigou, 1927). From these perspectives, changes in business confidence are seen as having a considerable influence on investment decisions. As elucidated by Leduc and Sill (2010), optimism and positive economic expectations among businesses

will produce positive reactions regarding the broad reflection of the state of the economy in general. This will translate into more capital accumulation, which will feed into enhanced employment and production. Conversely, uncertainty about the future will reduce business confidence and will result in the postponement of investment decisions (Meinen & Roehle, 2017). While many factors negatively impact on uncertainty, economic instability particularly comes to mind when considering capital formation. From this view, instability negatively affects investment, based on the inability to reverse certain investments and incurred costs of adjustments. Guiso and Parigi (1999) in this regard reiterate that increased uncertainty makes businesses hesitant and less eager to embark on investments. Even if businesses are moderately confident about future circumstances, they might still be hesitant to invest if there is a perception that returns on additional capital spending will be low (Banerjee et al., 2015).

Uncertainty regarding economic policy formulation likewise has proven to significantly affect confidence in this regard. Monetary policy that is not considered sound due to highly volatile inflation, interest rates and exchange rates, may result in a variety of risks on direct investments (Cushman, 1985). If firms expect a higher inflation rate, they will be more willing to invest as this will bring about considerably higher future returns on capital (Parkin, 1990). Conversely, lower expected inflation rates will result in less investment. Regarding the effects of interest rates on investment, Sharpe and Suarez (2013) found that most firms are not responsive to lower interest rates. However, at the same time, Grasso and Ropele (2016) maintain that improved liquidity access may substantively invigorate investment expectations. Chirinko (1986), in this regard, reiterates that firms are optimal in this sense, selecting output and input combinations that maximise profits. Therefore, the greater the expected profit, the more responsive investment decisions will be. Indeed, Leduc and Sill (2013) show that when firms are confident about economic performance and its associated policies of at least a year in advance, they significantly raise investment activity.

However, the investment decision based on expectations is all but a clear process. Leduc (2010) argues that the boom phase in the business cycle as a result of positive expectation may prompt a burst if the developments neglect to satisfy the businesses' initial perception. Yet, a general conclusion is that greater uncertainty and a lack of business confidence, at either level of the economy, result in low

investment rates by raising the value of the '*call option*' to postpone the investment commitment (Carruth, Dickerson & Henley, 2002). Nonetheless, confidence indicators are exceptionally helpful forecasting tools as they comprise information on future fluctuations, which most likely will have actual economic repercussions (ECB, 2013).

From an empirical perspective, attempts to comprehend the relationship between expectations and investment have nevertheless been somewhat contentious. For instance, in their study, Gennaioli et al. (2015) found that expectations are statistically significant predictors of both planned and actual investment. These findings are consistent with those of Masayuki (2016), who suggests a negative effect of business uncertainty on companies' investment. On the other hand, Leduc and Sill (2013) used macroeconomic time-series data to examine the impact that uncertainty has on GDP, manufacturing production and employment, and discovered that uncertainty has substantial deleterious effects on these macroeconomic factors. These findings resonate with those of Kellogg (2014), who found that production in drilling industries decline when expected uncertainty and unpredictability rise. In a study on how changes in expectations and their interaction with monetary policy contribute to fluctuations in macroeconomic aggregates, Leduc and Sill (2010) found that confidence and expectations of advantageous economic periods result in substantial increases in inflation and consequently induce a restrictive monetary policy.

From a business perspective, Luong and Vixathep (2016) found that confidence has a significant effect in explaining economic activity in Vietnam. Specifically, firms that were somewhat optimistic about the overall economic and business circumstances were certain about the recovery of the global and domestic economies. Moreover, in a study that investigated the role of new information and changes in expectations in driving economic fluctuations, Beaudry and Portier (2006) found that prospects of greater output and returns have considerable effects, enhancing current spending, gross capital formation, and real GDP.

Finally, based on the relationship between economic growth and investment, Bakari (2017) found that between 1960 and 2015, domestic investment in Malaysia had a positive effect on economic growth in the long run. Similarly, Abdulmumini and Tukur (2012) also found that domestic investments impacted positively on economic growth in both Nigeria and 42 Sub-Saharan African

countries, respectively. Based on causality, a study by Adhikary (2011) concluded that gross capital formation has a long-run relationship and causes economic growth. Conversely, Qin, Cagas, Quising and He (2006) found that economic growth causes domestic investment. Lastly, in their study that determined the causal relationship between gross fixed capital formation and growth, Ghali and Ahmed (1999) found feedback causality in both the USA and France.

3. METHODOLOGY

3.1 Data and sample period

Based on the aforementioned, the study made use of a quantitative research approach based on a functionalist paradigmatic foundation. Quarterly time series data was employed with the sample period ranging from 1995Q1 to 2017Q4 comprising 92 quarterly observations. This period was chosen based primarily on the availability of data. Variables that were used in the empirical analysis included real GDP per capita, real domestic investment (gross fixed capital formation) and the SARB repurchase rate for which all data were obtained from the SARB database. In addition, the BER composite business confidence index was used as measure of business sentiment in the South African economy. The index represents the unweighted mean of five sectoral indices, which include manufacturers, building contractors, retailers, wholesalers and new vehicle dealers. It is gauged on a scale from 0 to 100, where lower scores indicate lower levels of confidence and scores closer to 100, extreme confidence in the current domestic investment climate.

3.2 Model specification

The study made use of the autoregressive distributed lag (ARDL) model in order to analyse both the short- and long-run effects of business confidence and investment on economic growth in the country. The choice of the model was motivated by its ability to produce accurate results even if small samples are used. Additionally, these models can be used if variables are stationary at $I(0)$, $I(1)$ or a mixture of $I(0)$ and $I(1)$ variables. The model, however, is invalidated if any variables are integrated of the second order. In respect to the latter characteristic, the first step in the analysis entailed the use of the augmented Dickey Fuller (ADF) unit root test to determine whether any of the included variables were $I(2)$. The following ARDL model was employed for the empirical analysis:

$$\Delta LGDP_t = \alpha_0 + \sum_{j=1}^k \beta_j \Delta LGDP_{t-j} + \sum_{j=1}^k \gamma_j \Delta LBCI_{t-j} + \sum_{j=1}^k \delta_j \Delta LINV_{t-j} + \sum_{j=1}^k \tau_j \Delta LREPO_{t-j} + \phi_1 LGDP_{t-1} + \phi_2 LBCI_{t-1} + \phi_3 LINV_{t-1} + \phi_4 LREPO_{t-1} + \mu_t \dots \dots \dots (1)$$

where $\Delta LGDP$ denotes the change in natural logarithm of GDP per capita at the time t; $\Delta LBCI$ denotes the change in natural logarithm of the business confidence index at the time t, $\Delta LINV$ denotes the change in the natural logarithm in real investment and $\Delta LREPO$ denoting the change in the natural logarithm in the SARB repurchase rate. α_0 represents the intercept, k denotes the number of lags, while u_t designates the white noise error term. Finally, β_j , γ_j , δ_j and τ_j

indicate the short-term dynamics of the model, whereas ϕ_1 , ϕ_2 , ϕ_3 and ϕ_4 represent the long-run coefficients. Based on the model presented in Equation 1, the study used the following hypotheses to test for co-integration by using the Pesaran *et al.* (2001) approach of bounds testing:

Null hypothesis (H₀) for no co-integration: $\phi_1 = \phi_2 = \phi_3 = \phi_4 = 0$

Alternative hypothesis for co-integration: $\phi_1 \neq \phi_2 \neq \phi_3 \neq \phi_4 \neq 0$

The approach entails the comparison of calculated Wald F-statistics to the upper and lower bound critical values as presented by Pesaran *et al.* (2001). Where F-statistics are found to be lower than the lower bound critical values, the null hypothesis is not rejected. Alternatively, if calculated F-statistics exceed upper-bound critical values, the null hypothesis is rejected. The latter would imply that there exists a long-run relationship between the variables and therefore would require the estimation of the error correction model (ECM). This would assist towards determining the speed of adjustment to equilibrium. The ECM model derived from the model in Equation 1 is presented as follows:

$$\Delta LGDP_t = \alpha_0 + \sum_{j=1}^k \beta_j \Delta LGDP_{t-j} + \sum_{j=1}^k \gamma_j \Delta LBCI_{t-j} + \sum_{j=1}^k \delta_j \Delta LINV_{t-j} + \sum_{j=1}^k \tau_j \Delta LREPO_{t-j} + \phi ECT_{t-1} + u_t (2)$$

Where ECT is the error term and ϕ the ECT coefficient used to measure the speed of adjustment to equilibrium. The final ARDL model was estimated using E-Views 9 software, which also allowed for optimum lag selection specifically based on the Akaike information criterion (AIC). Finally, based on suggestive

causal evidence among the variables (Demirel & Artan, 2017), the Toda-Yamamoto (T-Y) approach to Granger causality test was employed. This approach was chosen based on its ability to provide more accurate results when selected variables have different orders of integration compared to ordinary Granger causality tests (Mavrotas & Kelly, 2001). The T-Y model utilises a modified Wald (MWALD) test and seemingly unrestricted regression towards testing whether the lagged values of the independent variables for each of the dependent variables, as shown in Table 5, are zero (null hypothesis). If this null hypothesis is rejected, it subsequently indicates the presence of Granger causality. Finally, before interpreting the results, various diagnostic tests were carried out, which included normality, autocorrelation, heteroscedasticity and parameter stability tests.

4. RESULTS AND DISCUSSION

4.1 Correlation analysis and unit root testing

The first step in the analysis comprised a correlation analysis among the variables together with unit root testing. Table 1 presents a summary of the results pertaining to the correlation analysis. Results from the table indicate significant (at 5% significance level) positive relationships between LGDP and LINV as well as LBCI and LGDP. Based on *a priori* expectations, the relationship between LINV and LBCI likewise was positive; however, it was not deemed significant. Further results indicate negative and strong relationships between LREPO and all other variables that were used in the study. This suggests that the SARB's repurchase rate has a strong negative association with business confidence, domestic investment as well as growth levels in the South African economy.

Table 1: Pairwise correlations

Probability	LBCI	LGDP	LINV	LREPO
LBCI	1.000000 ----- -----			
LGDP	0.112028 [1.069519] 0.2877	1.000000 ----- -----		
LINV	0.480950 [0.770491] 0.4430	0.982582 [50.16252] 0.0000*	1.000000 ----- -----	
LREPO	-0.296215 [-2.942186] 0.0041*	-0.864070 [-16.28475] 0.0000*	-0.820568 [-13.62014] 0.0000*	1.000000 ----- -----

Note: [] indicates t-values and * denotes rejection of null hypothesis at 1% level of significance

As the presence of any variables integrated in the second order renders the computed F-statistic of the ARDL model invalid towards co-integration testing, unit root tests were conducted. The study made use of the ADF unit root test, to which results are reported in Table 2. The results showcase that not all variables are stationary at level. In fact, only LBCI is shown to be I(0). All other variables were found to be integrated of order one or are I(1). These results therefore confirm that no variables were integrated of the second order, and consequently the ARDL model can be used for co-integration testing.

Table 2: Augmented Dickey Fuller (ADF) unit root test

Variable	Level without trends		Level with trends		1st difference without trend		Order of integration
	t-statistic	P-value	t-statistic	P-value	t-statistic	P-value	
LGDP	-0.7573	0.8257	-1.3215	0.8759	-3.1102	0.0295*	I(1)
LBCI	-2.7989	0.0625**	-2.7937	0.2036	-5.0256	0.0004*	I(0)
LINV	-1.0811	0.7202	-1.2821	0.8857	-3.6240	0.0071*	I(1)
LREPO	-1.7379	0.4089	-2.8458	0.1853	-5.9267	0.0000*	I(1)

Note: * and ** indicates significance at 5% and 10% level of significance respectively

4.2 Long-run analysis

Prior to the co-integration analysis, lag length selection and model specification were conducted. The study made use of automatic lag length selection in E-Views 9 based on the Akaike information criterion (AIC). A total of 20 models were suggested, to which the best model was represented by ARDL (4,1,1,1). After model selection, the following step entailed the use of the ARDL bounds test for co-integration analysis and results are reported in Table 3. The computed Wald

statistic is 6.9752 and corresponding lower and upper critical bound values (Pesaran *et al.* 2001) are 2.79 and 3.67, respectively. Since the estimated F-statistic is greater than the upper bound value, the null hypothesis for no co-integration can be rejected. This therefore implies the existence of a long-run relationship between the variables. This relationship is expressed in Equation 3.

Table 3: Results for bounds test of co-integration

Test statistic	Value	K
F-statistic	6.975262	3
Critical Value Bounds		
Significance	I0 bound	I1 bound
10%	2.37	3.2
5%	2.79	3.67
2.5%	3.15	4.08
1%	3.65	4.66

Results from the equation infer that the long-run relationship between domestic investment and GDP is positive. In fact, a one percent increase in domestic investment will induce a 0.34 percent increase in GDP. These results are similar to those reported in Ncanywa and Makhenyane (2016) and Adhikary (2011). Furthermore, business confidence is also shown to affect GDP positively. The long-run multiplier between LBCI and LGDP is estimated at 0.233, meaning that a one percent increase in business confidence leads to a 0.233 percent increase in GDP. Therefore, these findings tend to support the idea that business cycle activity and performance not only depend on real economic activity, but likewise rely on prevailing business expectations and confidence (Demirel & Artan, 2017).

$$LGDP = 0.2331LBCI + 0.3142LINV - 0.1260LREPO + 12.5633 \dots\dots\dots(3)$$

While the aforementioned variables all showcased positive relationships, the relationship between the repurchase rate (repo) and GDP was negative, inferring that an increase in the repo rate decreases GDP levels. As such, a one percent increase in the repo rate induces a 0.126 percent decrease in GDP in the long run.

4.3 Short-run analysis and ECM results

After establishing a long-run relationship, the next step entailed estimating the error correction model (ECM) with the purpose of determining the short-run dynamics. In this regard, Mukhtar and Rasheed (2010) assert that the presence of

a negative error correction term together with a significant t-value confirm the explanation of short-run adjustments to long-run equilibrium. The results of the ECM are depicted in Table 4. The error correction term of -0.2251 implies that 22.51 percent of disequilibrium between the variables is corrected each quarter. It therefore takes approximately 4.44 quarters (1 year and 2 months) to restore long-run equilibrium in GDP when business confidence, domestic investment and repo rate changes are considered.

Table 4: Results of the error correction model (ECM)

Variable	Coefficient	Std. error	t-statistic	Prob.
D(LGDP(-1))	0.208417	0.105201	3.368233	0.0011*
D(LGDP(-2))	0.072858	0.107634	-0.676906	0.5005
D(LGDP(-3))	0.160062	0.098442	-1.625945	0.1080
D(LBCI)	0.209301	0.002754	3.377076	0.0012*
D(LINV)	0.341646	0.013165	3.163365	0.0022*
D(LREPO)	-0.166558	0.005798	1.131067	0.2615
CointEq(-1)	-0.225185	0.003761	-6.697092	0.0000*

Note: * denotes significance at 1% significance level

The short-run coefficients for change shown in Table 4 suggest that GDP is affected positively by its own past changes (lag 1). Furthermore, both coefficients for change relating to business confidence and domestic investment are positive and significant at the 0.01 significance level. These findings therefore suggest that both changes in business sentiment and domestic investment significantly affect changes in current GDP levels in the short run. The results further highlight the significance of a stable, prospering investment and business climate for strong economic expansion (Ermolina, 2015). From this perspective, healthy and steady business sectors act as strong economic drivers that promote infrastructural investment, export promotion and are valuable sources of job creation and poverty reduction (Leigh & Blakely, 2016). Finally, the coefficient regarding changes in the repo rate is negative; however, these changes do not seem (p-value = 0.2615) to have a significant impact on current GDP levels.

4.4 Causality among business confidence, investment and economic growth

Given the existence of the co-integrated relationship, support is exerted to at least one causal relationship between the variables. As variables presented a combination of I(1) and I(0), the study made use of the T-Y approach to Granger causality to determine the direction of causality among the variables. By utilising the AIC, SIC and BIC information criterions, the T-Y Granger causality tests were estimated with five lags. Results for the analysis are shown in Table 5.

Table 5: Toda-Yamamoto (T-Y) causality tests results

Dependent variable: LGDP				Dependent variable: LBCI			
Excluded	Chi-sq	df	Prob.	Excluded	Chi-sq	df	Prob.
LBCI	11.38651	5	0.0447*	LGDP	13.76456	5	0.0172*
LINV	8.380137	5	0.1365	LINV	9.165813	5	0.1026
LREPO	8.676205	5	0.1227	LREPO	16.16434	5	0.0063*
All	36.27273	15	0.0000*	All	36.28954	15	0.0000*

Dependent variable: LINV				Dependent variable: LREPO			
Excluded	Chi-sq	df	Prob.	Excluded	Chi-sq	df	Prob.
LGDP	15.66683	5	0.0079*	LGDP	2.724363	5	0.7424
LBCI	12.569238	5	0.0277*	LBCI	1.032935	5	0.9599
LREPO	5.761312	5	0.3301	LINV	5.083158	5	0.4058
All	46.87031	15	0.0000*	All	7.190415	15	0.9521

Note: * denotes significance at 5% level of significance

Results from the table indicate that there exists a unidirectional causality emanating from LGDP to LINV as well as from LBCI to LINV as the lags of these independent variables cannot be excluded from their respective equations. This infers that short-run changes in both GDP and business confidence Granger-cause changes in domestic investment. Similar findings were also reported by Bruno, Grosilla and Margani (2016). Furthermore, one-way causal relationships were also noted between LREPO and LBCI. These results tend to suggest that short-run changes in the SARB repurchase rate Granger-cause fluctuations in business sentiment within the South African context. While these relationships point to unidirectional causality, the relationship between LGDP and LBCI

suggest bidirectional causality. This tends to infer that both short-run changes in GDP and business confidence Granger-cause fluctuations in the other.

4.5 Diagnostic and stability tests

Various diagnostic and stability tests were employed in order to check the robustness of the models. Table 6 below indicates the results of the various tests.

Table 6: Diagnostic test results

Test	Hypothesis	Probability	Decision
White test	No serial correlation	0.4485	No serial correlation
Breusch-Godfrey test	No heteroscedasticity	0.5741	No heteroscedasticity
Jaque-Bera test	Residuals are normally distributed	0.6526	Residuals are normally distributed
CUSUM & CUSUMSQ	Both models remained within upper and lower critical boundaries		Models are stable at 0.05 significance level

The test results relating to serial correlation (p-value= 0.4485), heteroscedasticity (p-value = 0.5741) and normality (p-value = 0.6526) all showcase p-values greater than 0.1. This would infer that the null hypothesis for these tests could not be rejected even at a 10 percent level. Therefore, these findings suggest that the used model met all the necessary econometric assumptions with no serious concerns regarding autocorrelation or heteroscedasticity. Furthermore, residuals were found to be normally distributed. After the needed residual diagnostic tests were run, it was necessary to check for parameter stability. Results, as indicated in Table 6, confirm the CUSUM and CUSUM of square graphs remained within the critical values of the lower and upper boundaries. Henceforth, the used model was dynamically stable; where any significant changes in economic conditions during the sample period had no effect on the relationship between the variables.

5. CONCLUSION AND RECOMMENDATIONS

This paper had the primary objective of analysing the relationships between business confidence, investment and economic growth in the South African economy. The results confirm and showcase the importance of a healthy business and investment climate towards stimulating inclusive growth in South Africa. The findings' implications reflect that business sentiment and confidence not only play a decisive role in this regard, but it also acts as a key leading indicator towards

predicting future investment and economic activity. Consequently, in an effort to promote much needed growth and the expansion of investment, it firstly requires the creation of an enabling environment that facilitates an improved outlook from both firms and investors alike. While investment is seen as an important driver for economic growth, the paper furthermore showcased the importance and dependence of these activities on the growth outlook for the country. Therefore, attention should not only be directed towards stimulating investment, but rather should be directed towards the adoption of a multidimensional approach, focusing on identifying other factors that could drive economic expansion, such as effective employment policies and the promotion of domestic savings. Monetary policy in this regard also has an important role to play. The current policy stance should be more accommodative in order to promote business expansion. Most importantly, it is crucial to maintain a stable macroeconomic environment and uphold a strategic distance away from unpredictable economic policies. Future research will focus on adding additional variables in the modelling process, specifically pertaining to the impact of fiscal stability and consumer confidence in the growth nexus of SA.

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