

An Assessment of the Effectiveness of Monetary Policy in South Africa

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Abstract: The total economy is affected by inflation which should be effectively controlled to support economic growth. However, in recent years there has been evidence of inefficiencies of inflationary control in South Africa as the country is faced with both structural and cost-push inflation in a low growth economy. The objective of this study was to investigate whether these inflation types are effectively controlled through the utilisation of interest rates and money supply by the South African Reserve Bank (SARB). Secondary data from the SARB were collected for 69 quarters from 2000 Q1 to 2017 Q1. An autoregressive distributive lag model (ARDL) was used to analyse the data for long-run co-integration while an error correction model (ECM) tested for short-run relationships. Variables included the consumer price index (CPI), money supply, interest rate (repo rate), government expenditure as well as trade openness. The results indicated that both long- and short-run relationships exist between the variables. The study revealed that structural and cost-push inflation exists in South Africa, making the current methods of monetary policy implementation less effective in controlling inflation as well as having an impact on economic growth.

Keywords: ARDL; cost-push inflation; interest rates; monetary tools; South Africa

JEL Classification: E42; E52; E58

1. Introduction

The South African economy has been experiencing a phenomenon where high interest rates have not always kept inflation in the target range of three to six percent as per the SARB targeting framework (Mills, 2016, p. 3). It has become increasingly clear that the indirect measures used by the monetary policy to regulate money supply and inflation have become less efficient over time (Matemilola et al., 2015,

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p. 54). The seemingly limited control that the monetary policy within the abovementioned framework has over inflation for extended periods of time, calls for investigation of possible alternative methods (Davis, 2017, p. 2). The limited effects of monetary policy could be due to the fact that there is increasing evidence of a cost-push inflation in the South African economy as well as structural (“imported”) inflation, rather than demand-pull inflation (Matemilola et al., 2015, p. 52). According to Van der Merwe and Mollentze (2010, p. 24), the main causes of cost-push and structural inflation include wage-push due to labour strikes and labour union power; rising costs of raw materials and other production inputs, such as increased oil and electricity prices. In other words, supply-side inflationary pressure.

These factors occur in an economy which experiences circumstances, such as high indirect taxation and regulations, as well as a depreciating exchange rate leading to high import costs (Matemilola et al., 2015, p. 52). Moreover, the existence of monopoly power within industries which provide goods and services that enjoy inelastic demand, also contributes to the problem (Ntingi, 2015). Alternatively, it could also occur due to a decrease in the supply of goods and services in the market. Demand for certain goods such as electricity and fuel is inelastic; when prices increase, the demand for these products or production inputs will remain constant (Barth & Bennet, 1975, p. 391).

In South Africa, new policies, such as the minimum wage policy, which will be implemented during 2018; increases in direct and indirect taxes and the rising cost of production, are all factors that potentially lead to changes in inflation (Riba, 2017, p. 38). For example, Eskom’s constant and significant tariff hikes, as well as their monopolistic power and the ever-rising costs of raw materials, especially due to rising import prices caused by a depreciating currency, are all factors contributing to cost-push inflation. This means that without monetary and fiscal policy changes in the near future, inflation levels will continue to rise and will remain volatile (Ntingi, 2015).

The main objective of this study was to investigate whether structural and cost-push effects on inflation have a more significant impact than that of the tools used by the SARB to regulate inflation in South Africa, such as the repo rate and money supply. Limited research regarding the South African economy has been undertaken in recent years on this specific aspect of it. Therefore, this research is significant as it could assist policy makers in controlling inflation more effectively. This paper includes a literature review that provides an overview on relevant theories, definitions and topics pertaining to the understanding of the inflation conundrum in South Africa. The literature review includes empirical findings on the matter from a global perspective as well as a local one. Thereafter, the research method is explained, followed by a discussion of the results and findings. Recommendations

on how to improve inflationary control in the South African context are provided for the monetary policy and the fiscal policy.

2. Literature Review

Mohr and Fourie (2011, p. 495) define inflation as “the continual and significant rise in general price levels over time”. The Consumer Price Index (CPI) and Producers Price Index (PPI) are the main variables used to measure real inflation within the South African economy; however, there are various other factors that influence it too. Inflation should be controlled within a target range that is quantifiably acceptable in terms of what an economy requires to grow (Mills, 2016, p. 2). This implies that inflation above this targeting framework could lead to hyperinflation with rapidly rising prices. Conversely, when below the target framework, it could cause deflation, which would cause prices to stagnate or even decrease, leading to low growth (Mohr & Fourie, 2011, p. 503). One of the methods that Statistics South Africa (StatsSA) utilises to calculate inflation is by determining the monthly CPI by means of a representative basket of consumer goods and services. The basket currently includes 412 goods and services that include the products on which households spend the most money (Stats SA, 2017a).

Tinbergen (1952, p. 1) states that economic policy is the act of addressing economic phenomena and explains the correlation between economic variables; thus, to control inflation efficiently, the economic policy must be successfully implemented. This policy consists of two components: the qualitative component, which entails changes of qualitative aspects of economic structure such as monopoly behaviour, while the quantitative component entails changes in political parameters and instruments which exist within a qualitative framework (Mellet, 2012, p. 2). Fand (1969, p. 571) and Gali (2015, p. 52) state that changes in the official interest rate influence the valuation of assets; the expected returns from such financial assets and consumption as well as investment decisions within a country’s economy with regard to domestic households, firms and foreign investors (Matemilola et al., 2015, p. 54).

According to Mellet (2012, p. 3) and Ardakani *et al.* (2018, p. 76), advanced or developed economies have generally adopted an inflation target norm of approximately two percent. Such a low target of inflation raises the fear of deflation. Most emerging economies experience structural factors influencing inflation, price setting and economies’ susceptibility to exogenous shocks and thus require higher inflation targets (Du Plessis, 2015, p. 7). Woodford (2003, p. 16) states that central banks should follow the Taylor rule: to stabilise inflation by raising the interest rate above a one-to-one level in terms of interest rates with increases in the inflation rate. In order for a monetary policy to be effective, it is a necessity that changes in the official interest rate be transmitted to financial markets as soon as possible and must

be of such magnitude that they influence aggregate demand to an effective extent (Aziakpono & Wilson, 2015, p. 68).

The current monetary policy system in South Africa came into existence from 1979 onwards, when the De Kock Commission prompted the adoption of market-oriented mechanisms over the previously favoured direct controls (Akinboande et al., 2004, p. 7). This system attempts to control monetary aggregates or money circulation within the economy by influencing demand for money and credit through interest rates. These mechanisms all form part of the monetary policy, which is controlled by the SARB and entails the regulation of money supply and interest rates in South Africa. In doing so, the SARB aims to achieve a stable pricing system, full employment and as a result, economic growth (SARB, 2017a). There are multiple instruments used to implement monetary policy that contradict the direct measures which were historically used (Taylor, 2015, p. 3). Modern instruments seek to inspire financial institutions to conduct themselves in such a way as to promote the goals of monetary policy (SARB, 2017a). However, the South African economy may need a different approach to assist in regulating price level fluctuations, increasing employment (to reduce the high level of unemployment) and to finally enable the economy to grow at acceptable levels. Current measures have not been totally effective in reaching the desired outcomes (Mellet, 2012, p. 2).

Unemployment in South Africa has been one of the economy's most intractable challenges (de Jongh, et al., 2016, p. 420). According to Stats SA (2017b), the current unemployment rate is at 26.7 percent of the total labour force in the narrow definition. This high unemployment rate can be considered a failure of one of the main policy mandates of the SARB's monetary policy of the pursuit of full employment in the economy. This policy is implemented by means of changes in the repurchase (repo) rate as well as money supply to the economy. This is the rate at which the SARB lends money to the commercial banks (SARB, 2017b). According to Stats SA (2017c), inflation decreased in the first quarter of 2017, mainly due to easing of prices of food and transport, as well as lower wholesale prices in the United States and an estimated final figure of 6.4 percent for the year 2016. Table 1 presents the average repo rate and inflation rate from 2013 to 2017 in South Africa. The dilemma of the South African monetary policy is reflected in the table. For example, from 2013 to 2014 the repo rate increased, but inflation continued to increase too.

Table 1. Annual inflation and repo rates

Rate	2013	2014	2015	2016	2017
Repo rate	5%	5.75%	6.0%	6.75%	6.75%
Inflation	5.9%	6.1%	4.5%	6.4%	5.3%

Source: Stats SA (2017c)

Theoretically, the repo rate has a negative correlation with inflation, based on the “Fisher Effect” (Anari & Kolari, 2016, p. 129; Mohr & Fourie, 2011, p. 501). This means that when the repo rate is increased by the SARB, it should result in a decrease in the inflation rate (Stats SA, 2017b). However, from 2015 and 2016, as shown in Table 1, South Africa has been facing a fluctuating inflation rate that contrasts with Fisher’s theoretical underpinning. The increasing interest rate has not demonstrated any significant reduction in inflation, which indicates that the effectiveness of interest rate changes on inflation can be called into question and suggests the possibility of overwhelming influence from cost-push factors rather than demand-pull factors on inflation (Reichlin & Baldwin, 2013, p. 14).

In this regard, it is important to understand the differences between the theories of inflation, in other words, the cost-push and structural inflation stemming from supply of goods and services, as well as demand-pull inflation, in order to analyse the effectiveness of interest rate changes. Van der Merwe and Mollentze (2010, p. 24) explain that cost-push inflation takes place when the cost of production rises, even in periods where resources are being underutilised. The main sources of cost-push inflation, as previously stated, include wage-push due to labour strikes and labour union power, the rise in costs of raw materials and other production inputs. This also includes profit driven forces from increased profit margins in industries, thus increasing both production costs and purchasing costs of final goods and services, from local as well as international sources (Ntingi, 2015).

On the other hand, demand-pull inflation exists when the total aggregate demand is higher than the output produced and is caused by an increase in expenditure by households and government as well as a rise in investment and net exports (Du Plessis & Rietfeld, 2013, p. 9). Research indicates that following the 2008 financial crisis, most developing countries, including South Africa, found the leading cause of inflation to be located in the cost-push and structural category (Mellet, 2012, p. 147). This phenomenon makes it more difficult for policy makers to control inflation by making use of traditional methods such as the repo rate. In this country, this is also due to other influencing factors such as capital volatility, exchange rate volatility, increased unemployment, destabilised capital balances, inefficient policy and especially rising costs to consumers and producers. It is therefore required that policy makers such as the Monetary Policy Committee (MPC) of the SARB address these factors within a new mix of monetary policies and targets to address these factors (Mellet, 2012, p. 162).

From the perspective of empirical results, Adusei (2013, p. 68) indicated that the South African inflation environment is a monetary as well as a structural one, but is mainly influenced by external factors. Put differently, changes in the prices of imports, conditions in trade partners, growth of the local economy and the expenditure patterns of government, are the main factors impacting on inflation in

South Africa. This in turn suggests that continuous increases in inflation are not controlled by changes in interest rates or money supply in the local economy. Another significant structural determinant of inflation in South Africa has proven to be the cost of labour (Akinboande et al., 2004, p. 42). This indicates yet another influencing factor not accounted for in controlling inflation in the monetary system.

According to Myrdal and Streeten, as cited by Sen (2016), the structural theory of inflation should be used as an approach to inflation in emerging market economies, concluding that it will not be successful to implement aggregate demand-supply models to explain inflation in these countries. Structuralist theorists argue that numerous structural imbalances exist in emerging or developing economies (Guru, 2016). These include supply shortages in some sectors and an under-utilisation of resources and surplus demand in others, thus making the aggregate demand-supply model of inflation unsuitable for these countries (Sen, 2016).

Fedderke and Schaling (2005, p. 81) and Amusa et al. (2013, p. 798) prove that the South African economy is consistent with the cost-push view of inflation, which has significant implications for policy and the measures required to control inflation in the country. The hypothesis that monetary control measures of inflation in South Africa have less significant impacts than the structural and cost-push elements effecting inflation in the local economy, is thus supported by the aforementioned arguments. According to Coiran (2014, p. 400) interest rates are an efficient instrument to control demand-push inflation, based on a study done in Romania using a Least Squares regression analysis, but it is not the most suitable instrument when cost-push factors are involved.

De Waal and Van Eyden (2014, p. 135), using a vector autoregressive model (VAR) and 32 of South Africa's trading partners as a proxy with variables such as broad money supply (M3), the repo rate, inflation and the exchange rate, established that changes in monetary policy took approximately eight quarters to influence the inflation rate in South Africa. Atabay (2016, p. 137) investigated the relationship between trade openness, which measures an economy's ability to trade with international economies, and inflation in Turkey. The results revealed a significant, negative relationship between inflation and trade openness in Turkey. This indicates that, should the Turkish economy become more open to trade, inflation will decrease. Mehrara et al. (2016, p. 163) found that in developing economies, government expenditure has a negative relationship with inflation or has no inflationary impact, unless the economy is highly liquid and in a growth phase. The study also found that monetary and fiscal policies should be integrated to control inflation and stimulate aggregate demand.

This empirical evidence clearly indicates that the current measures of inflation control implemented through monetary policy in South Africa are not as effective as

they could be. It would thus be beneficial to analyse the effectiveness of current policy measures and investigate possible alternatives.

3. Methodology

This study utilised a quantitative research design, using quarterly time series data from Quarter 1 in 2000 to Quarter 1 in 2017, allowing for 69 observations. The chosen period relates to the onset of the inflation targeting system in South Africa. Variables used in the study include the natural logarithms of the consumer price index (LCPI), the repo rate (LREPO), broad money supply (LM3), government expenditure (LGOVEXP) and the trade-openness of the South African economy (LOPENNES). The latter was calculated using net imports divided by gross domestic product. The data used in this study was obtained from the South African Reserve Bank (SARB).

The study adopted the autoregressive distributed lag model (ARDL) developed by Pesaran and Shin (1996, p. 127). This model does not require all variables to be integrated in the same order; thus, the ARDL model can be used if variables are both I(0) and I(1) as a mixture. The Akaike criterion is used to determine the most efficient lag structure for the model. The bounds test is performed to test for long-run co-integration and a vector auto regression (VAR) to study the short-run relationship between variables. The ARDL formula used to determine the relationship between the variables is represented by Equation (1):

$$\Delta LCPI = \alpha_0 + \sum_{i=1}^k \beta_i \Delta LCPI_{t-i} + \sum_{i=0}^k \beta_i \Delta LREPO_{t-i} + \sum_{i=0}^k \beta_i \Delta LM3_{t-i} + \sum_{i=0}^k \beta_i \Delta LOPEN_{t-i} + \sum_{i=0}^k \beta_i \Delta LGOVEXP_{t-i} + \eta_1 LCPI_{t-1} + \eta_2 LREPO_{t-1} + \eta_3 LM3_{t-1} + \eta_4 LOPEN_{t-1} + \eta_5 LGOVEXP_{t-1} + \varepsilon_t \dots \dots \dots (1)$$

Where: Δ denotes the first difference operator of the variables. The correlation analysis was performed to determine the relationship between the variables. A number of diagnostic tests and a stability test were performed.

4. Results and Discussion

This section reports the results of the study. Firstly, the correlation results between the variables is presented, followed by stationarity tests as well as the long and short run results. Finally, various diagnostic and stability test results are provided.

4.1. Correlation Analysis

The correlation coefficient represents the statistical relationship between two variables, measured between 0 and 1. When the value is closer to 1, it indicates a stronger association between the variables (Ahlgren et al., 2003, p. 551). As

indicated in Table 2, the correlation between the CPI and all the other variables is significant at the 1 percent level of significance.

Table 2. Pearson's correlation coefficients

	LCPI	LGOVEXP	LM3	LOPEN	LREPO
LCPI	1.0000 -----				
LGOVEXP	0.9949 [0.0000]*	1.0000 -----			
LM3	0.9742 [0.0000]*	0.9864 [0.0000]*	1.0000 -----		
LOPEN	0.3987 [0.0007]*	0.4119 [0.0004]*	0.4457 [0.0001]*	1.0000 -----	
LREPO	-0.6853 [0.0006]*	-0.7133 [0.0003]*	-0.6555 [0.0004]*	-0.2468 0.0409	1.0000 -----

Note: [] indicates the P-values. (*) shows significance at the 1% level of significance.

These results indicate a strong association between inflation and all the variables based on the P-values of each variable. However, the association between inflation and government expenditure as well as broad money supply is strongest. There is a negative, significant relationship between inflation and the repo rate, in line with theory (Mohr & Fourie, 2011, p. 501). There is also a significant, positive correlation between inflation and trade openness. The correlation between inflation and government expenditure as well as broad money supply is also stronger than that of the repo rate, which relates to the study done by Fedderke and Schaling (2005, p. 89) and Mehrara *et al.* (2016, p. 165). As could be expected, the repo rate has a negative correlation with all the other variables as it depresses economic activity.

4.2. Unit Root Test and ARDL Model Selection

For the ARDL model to be utilised, variables can be either I(0) or I(1) as well as a mixture, but not I(2). The other advantage of the ARDL model is that it allows various lags to be employed when testing the model. The augmented Dickey-Fuller (ADF) unit root test was employed to test whether the variables meet this criterion. The results of the ADF, as represented in Table 3, show that all variables are either stationary at I(0) or I(1). This suggests that the ARDL model can be used to test for the long-run co-integration between the variables in this model (Gujarati & Porter, 2008, p. 762).

Table 3. Augmented Dickey-Fuller Unit Root Test results

Variable	Levels: I(0)	First Difference: I(1)	Integration Order Results
LCPI	0.9565	0.0001**	I(1)
LGOVEXP	0.1168	0.0000**	I(1)
LM3	0.0278*	0.2407	I(0)
LOPENNES	0.0000**	0.2947	I(0)
LREPO	0.0151*	0.0024**	I(1)

Note: (**) shows significance at the 1% level of significance; (*) shows significance at the 5% level of significance.

The outcome for the Akaike model selection in terms of the appropriate lag lengths for each of the variables, resulted in the most effective model for use in the study with a lag structure of (4,3,0,3,4).

4.34.3. Analysis of Long-Run Relationships

After model selection, the next step was to determine whether a long-run relationship exists between the variables in the model. This was done by conducting the Bounds test of co-integration where the estimated F-value is compared to critical values. Table 4 presents the Bounds test for the analysis of the long-run relationships between the variables. The results indicated that the F-value (7.143098) is higher than the upper bound of each of the variables at all significance levels.

Table 4. Bounds Test

Dependent Variable LCPI	Estimated F-statistic: 7.143098	
Critical Values	Lower Bound	Upper Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37
10%	2.2	3.09

These results signify that a long-run relationship exists between all the variables and thus the null-hypothesis for no co-integration can be rejected. This relationship indicates that inflation is affected by changes in government expenditure as well as increased openness to trade within the South African economy. However, a change in inflation will also result in changes in the repo rate as well as broad money supply, and vice versa. This is consistent with the findings by Adusei (2013, p. 70) as well as Akinboande *et al.* (2004, p. 42). Based on the outcome of the long-run analysis, the following equation (Equation (2)) has been estimated:

$$LCPI = 2.1538 - 0.0966LREPO + 0.5515LM3 - 0.1706LOPEN - 1.1140 LGOVEXP \quad (2)$$

Equation (2) indicates a long run coefficient of 2.1538 and that one of four variables, M3 (Broad Money Supply), in the model has a positive long run relationship with CPI in the South African economy. The values from Equation (2) indicate that a one percent increase in trade openness could result in a 0.17 percent decrease in inflation, whereas a one percent increase in government expenditure will cause inflation to decrease by 1.11 percent. These results support the existence of structural inflation in the South African economy related to cost-push factors in changes in inflation, such as import costs and, for instance, government subsidies. These are thus factors which are not controlled by the standard policies in South Africa, such as changes in the repo rate and money supply to control inflation, as is demonstrated by the minor impact of just 0.097 and 0.55 percent change in consumer price inflation from these variables, respectively. These findings coincide with those of Adusei (2013, p. 70), Guru (2016), Fedderke and Schaling (2005, p. 83), Mehrara *et al.* (2016, p. 166) and Atabay (2016, p. 143).

4.4. Analysis of Short–Run Relationships and Error Correction Model (ECM)

Due to the existence of long-run relationships between variables as indicated by the Bounds co-integration test, it is necessary to analyse the short-run relationships as well by using an error correction model (ECM). This was done with the purpose of determining the time that it takes for changes in the system to return to the long-run equilibrium. These short-run results also indicate whether changes in the variables effect consumer price inflation in the short run. The results of this analysis are shown in Table 5.

Table 5. Short-run relationships and error-correction results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LCPI(-1))	-0.021160	0.157929	-0.133985	0.8940
D(LREPO)	0.043969	0.015729	2.795410	0.0075*
D(LM3)	0.049627	0.022518	2.203892	0.0326*
D(LOPENNESS)	-0.008463	0.003931	-2.153035	0.0366*
D(LGOVEXP)	0.096843	0.047253	2.049454	0.0461*
CointEq(-1)	0.089979	0.074629	1.205683	0.2341

Note: (*) shows significance at the 5% level of significance.

The results in Table 5 demonstrate that although changes in the repo rate have a strong relationship with consumer price inflation, the factors unaffected by changes in repo rate, such as government expenditure and trade openness of the South African economy, also affect consumer price inflation significantly in the short-run. The result shown by the error correction term however, is positive and insignificant, indicating that a short-run relationship does not exist. The ECT however, indicates that it takes approximately 11 (1/0.089979) quarters for changes in the repo rate and money supply to take effect on consumer price inflation in the economy. This contradicts the findings of De Waal and Van Eyden (2014, p. 117), as increased

structural vulnerability of the South African economy has caused interest rates to be less effective in controlling inflation. From this perspective it takes longer for traditional monetary policy instruments to affect inflation in the South African economy.

4.5. Model Stability Test and Residual Diagnostic Tests

The CUSUM test indicates whether the model is stable; the result is shown in Figure 2. Figure 2 illustrates that the model used in the study does not breach the boundaries, thus indicating the parameter stability of the model.

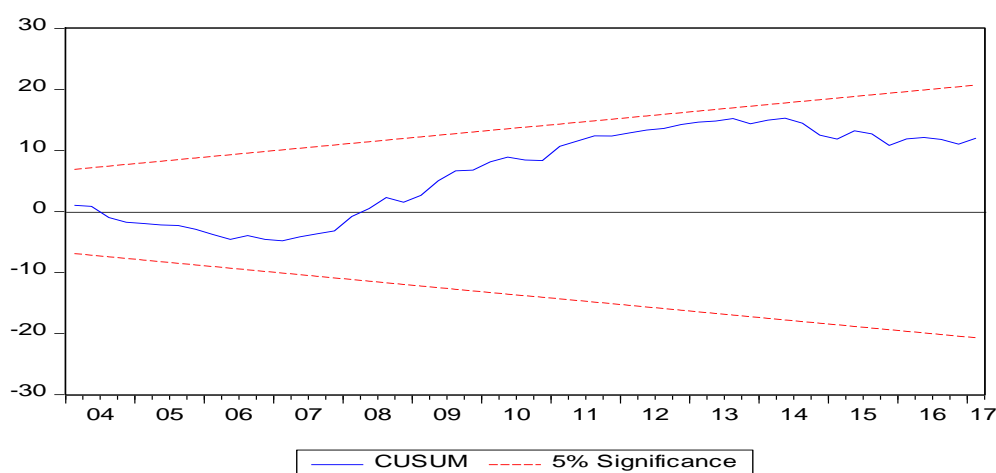


Figure 2. CUSUM Stability Result

Table 6 represents the results for the stability and diagnostic tests of the model used in this study, for normal distribution and heteroscedasticity. The results shown in Figure 2 as well as in Table 6 indicate that the model is stable, reliable and verifies that results were robust. The series used was found to be homoscedastic and normally distributed, which is due to the insignificant P-values, and thus the null-hypothesis can be accepted. These results indicate that the findings acquired from the model are trustworthy.

Table 6. Consolidated diagnostic tests

Test	Result
Normality (Jarque-Bera)	P-value: 0.805662
Heteroscedasticity (Breusch-Pagan-Godfrey)	P-Value: 0.841475
Serial Correlation (Breusch-Godfrey)	P-Value: 0.773734

5. Conclusions and Recommendations

The main purpose of the study was to determine whether structural and cost-push effects on inflation have a more significant impact than that of the tools used by the SARB to regulate inflation in South Africa. The findings reveal that the existence of structural inflation and symptoms of a cost-push nature presents implications for the efficiency and the implementation of the South African monetary policy. High and volatile inflation rates lead to inefficiencies of macroeconomic policy and as a result hinder the growth of the South African economy. Furthermore, whilst the current monetary policy, under the existing inflation targeting regime, provides some control over inflation in South Africa, results suggest the existence of structural inflation causes the impact of monetary policy implementation to be less efficient. This implies that monetary policy role players should be required to adjust the said policy accordingly to achieve the policy's goals which include price stability and economic growth (Kabundi et al., 2015, p. 116).

In order to achieve a balance between stimulating the economy that allows for investment and job creation whilst simultaneously maintaining price and financial stability, monetary authorities must formulate the needed response to effectively deal with the structural aspects of inflation. This could possibly include the formulation of a dual target system, one for demand-pull inflation and another for a cost-push inflation environment. On the other hand, the SARB must also seek to address the substitution bias that exists regarding the CPI basket used in measuring inflation, as there are high inflation items involved therein. These items have an upward bias on inflation over time.

Although the SARB plays a major role in ensuring a stable financial environment, effectively controlling structural inflation requires fiscal prudence (Van Aardt & Van Tonder, 2011). In this regard, South African fiscal authorities must assist in the control of cost-push inflation by means of subsidisation to absorb high production costs. Additionally, easing rigid labour regulations will assist in reducing costs to the private sector, such as high wages and the negative impacts of labour strikes and labour unions. These changes in regulation would likely increase production and offset the inflation that is caused by supply shortages. Other possible strategies include a radical structural transformation of the export sector by means of diversified exports and more competitive value-added manufacturing, with stable, high levels of capital inflows. Also, policymakers should seek to formulate new measures that aim to achieve exchange rate stability with the view to control import activity. This will further assist in absorbing the country's excessively high import costs and subsequently, decrease trade volatility.

Overall, the significance of the findings is that they confirm that contemporary knowledge concerning the impact of monetary policy tools on inflation is not always clear. Whilst results suggest that structurally induced price changes lower the

effectiveness of monetary policy in the South African economy, the true extent of these induced changes is not evident. Hence, further research is required to ascertain the extent to which structural inflation affects not only the South African economy but other developing nations too. For South Africa specifically, future research endeavours must seek to determine whether the current three to six percent inflation target is the most efficient framework for controlling inflation. This must be accompanied by possible inquiries on the impact of the range on the country's progress towards sustainable economic growth and development in an attempt to fully comprehend the significance of monetary policy decisions in the economy.

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