# Bridging Growth and Inclusion: How Monetary Policy and Institutions Shape Development in Southern African Economies

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**ABSTRACT**

*This paper examines how inclusive growth in Southern African countries depends on the monetary policy and institutional quality using a panel dataset of five nations (Botswana, Eswatini, Lesotho, Namibia, and South Africa) covering the period from 2008 to 2023. The analytic study starts by conducting a strict analysis of the stationarity characteristics of the panel variables using a modern panel unit-root test. It is then determined whether there is a relationship of long-run equilibrium between the variables using the Pedroni cointegration test, and therefore demonstrates the existence of the long-run linkages between the data. These empirical results confirm the theoretical speculation that the variables of inclusive growth, monetary, and institutional variables are cointegrated. Another specification that is taken up by the research process is the Pooled Mean Group-Autoregressive Distributed Lag (PMG-ARDL), which is a specification that permits the heterogeneous short-run dynamics with homogeneous long-run coefficients across cross-sections and, consequently, is able to isolate short- and long-term effects in a very subtle way. The estimate of the long-run relationship between inclusive growth and inflation indicates that inclusive growth is positively related to inflation with a significant level of statistical significance. Although its contribution to an inclusive growth is also moderately high in the long-term, urbanization also has a moderately strong effect. Conversely, the institutional variables do not show statistically significant effects when the same is specified. Corruption control, in its turn, in the estimated model, the long-term impact of the interest rate, money supply, government efficiency, and political stability does not attain standard levels of statistical significance. The error-correction mechanism demonstrates that the models used in this paper are critical since it demonstrates that the economy will go back to the long-run equilibrium following deviations in the short-term. Overall, the findings demonstrate the need to preserve macroeconomic stability and enhance institutional arrangements to facilitate long-term and inclusive economic growth in Southern Africa.*

*Keywords: Inclusive Growth; Monetary Policy; Institutional Quality; PMG-ARDL Approach; Panel Cointegration; Southern African Economies.*

## 1. Introduction

The history of the Southern African development can be discussed as having dual purposes: to maintain growth, and at the same time, to evenly distribute the gains. Inclusion growth

literature also highlights that development should not be based on the growth of the GDP, but rather on structural change, solidification of institutions, and better human capabilities (Dani Rodrik, 2004; United Nations Development Programme, 2019). Persistent structural and governance issues are still influencing this balancing process. Bhorat and Naidoo (2018) have made the complex intersections between economic development and inequality mitigation in Africa clear and have stated that, regardless of the growth patterns, equity cannot be a given, and that tailor-made policy tools would need to be developed to drive inclusive development. This theoretical paradox raises a fundamental question for policymakers and academics alike: how can macroeconomic systems be tuned in such a way as to create both development and equality at the same time?

Other recent discussions have started questioning the quality of institutional structures and monetary policy as central but controversial fields of analysis. Ferrero and Neri (2017) addressed monetary policy in a low-interest-rate regime and showed that the traditional instruments of the policy are limited, and unconventional ones need to be implemented, with their own implications on the dynamics of stabilizing the economy, maintaining inflation rates, and financial market operations. Furceri et al. (2018) conducted empirical research to evaluate the magnitude of monetary policy shocks on income inequality, and they decided that contractionary policies overburden households with lower incomes, thus enhancing economic inequalities, and expansionary policies could reduce inequality It has also been opined that the effectiveness of the monetary policy to enhance the inclusive growth index in the Southern African setting will depend on the existence of a nexus of robust, transparent, and accountable institutions. Segawa et al. (2025) evaluated the development of monetary policy communication in South Africa and found that unambiguous, believable, and transparent delivery of policy principles strengthens expectations and increases the effectiveness of the monetary interventions. The panel-data analysis by Brito and Bystedt (2010) of inflation targeting in emerging countries supports the fact that a clear targeting system creates better inflationary performance, positive effects on policy credibility, and brings about positive effects on both macroeconomic stability and growth. Aarujo and Ferrari -Filho (2023) investigated the Brazilian inflation-targeting regime, which, as the authors observe, the implementation of the policy takes place within an adversarial landscape wherein institutional, political, and economic factors interact to determine the effectiveness of the policy and its resultant impact on both inflation and development. Similarly, Rasaki and Chukwu (2024) examined the commodity-price shocks in African export economies and found that price volatility is the critical determinant of the success of the monetary policy and macroeconomic stability. Kanga (2021) has investigated how monetary policy was transmitted through the banking sectors in WAEMU with a focus on the interactions of credit, interest rate, and liquidity channels and structural banking constraints that affect the effectiveness and the macroeconomic outcomes.

Cukierman (2009) provided an in-depth discussion of the history of central bank independence, which anticipates its institutional underpinnings, the effect of credibility, and its contribution to inflation management. He assumes legal independence, transparency, and accountability are all positive contributors to monetary policy effectiveness, but the overall political and economic environment receives the final say on the performance results of

central banks. Dietsch et al. (2018) approached the issue of central banks serving the people critically and concluded the evaluation of the governance, accountability, and democratic legitimacy; the authors believe that the institutional framework used by policymakers and policy decisions determines the interests of the beneficiaries. The research by Dimakou (2015) on the market of bureaucratic corruption highlights the fact that this vice interferes with the coordination of monetary and fiscal policies, decreases credibility, and destabilizes macroeconomics, making institutional quality the key to stabilization.

On the other hand, well-organised institutions help in propagating policy, inclusive financial deepening, and the creation of conducive conditions that help growth to translate into greater socio-economic well-being. Huang and Wei (2006) tested the role that institutional quality played in enhancing the effectiveness of monetary policy in the emerging economies and concluded that better institutions enhanced credibility, lessening inflation volatility and improving macroeconomic stability and growth performance. In a recent study, Simatele and Bolarinwa (2025) recorded that increased banking concentration in Southern Africa reduces access to banking services, reduces inclusivity, and stifles the growth of the financial sector. Wang et al. (2022), in their turn, unraveled the impact of bank market power on monetary policy transmission, discovering that dominant banks can erode the effectiveness of policies by controlling the lending responses, credit allocation, and interest rates, thus controlling the macroeconomic performance.

Adediran et al. (2017) used a VAR model to evaluate the impact of monetary policy shocks on inclusive growth in Nigeria and found that policy differences have far-reaching implications on income distribution and economic inclusivity. To understand the importance of central bank communication in the context of social media, Gorodnichenko et al. (2024) investigated the elements of the topic under discussion and proved that a successful central bank needs to implement compartmentalized and open-minded communications that promote social media understanding, expectations, and the effectiveness of the monetary policy in a variety of economic settings. Jungo et al. (2022) studied the nexus between financial inclusion and the monetary policy in Sub-Saharan Africa and Latin America and found that a high level of financial inclusion improved the effectiveness of monetary policy, increased access to credit, and generally boosted economic growth.

The current study attempts to play a role in this academic debate by taking a holistic approach to the interconnection between institutional quality and policy of monetary regime in defining the developmental paths of Southern Africa. Besides a separate study of these variables, it suggests a comprehensive methodology of analysis to challenge their dynamics as a unit. Using panel-data econometrics on the chosen South African economies in the 2008-2023 period, the research work supports the proposition that the optimum benefits of the monetary policy should be magnified by strong institutional setups. The empirical results are expected to provide policymakers with a fine balance insight on how to create an effective balance between monetary stewardship and institutional fortification in order to aid the twofold mandate of growth and inclusion in a territory full of historical disadvantages, but full of unutilized possibilities.

## 2. Literature Review

The complex web of monetary policy, institutional form, and inclusive development has led to an interdisciplinary scholarly discourse. The review summarizes the latest literature (2016-2025) in three interconnected streams: the changing mandate of monetary policy in third-world contexts, the role of institutions in between, and the findings of the studies that are specific to Southern Africa.

## 2.1.    The Changing Mandate and Monetary Policy Delivery in Developed Economies

Conventional monetary policy, especially the paradigm of inflation targeting, has been criticized as too specific in economies with structural deficits. Poor-income countries normally demonstrate feeble interest-rate conveyor mechanisms with high volatility, insignificant financial markets, extensive informality, and loose regulations, which add to the decrease in the effectiveness of policies (Mishra and Montiel, 2013). This has led to a review of central-bank functions. Ozsahin and Ucler (2017) investigated the effectiveness of corruption on inflation in developing countries, applying panel cointegration and causal inference, which identified corruption as a noteworthy factor influencing the pressure on inflation that damages macro-economic stability and the effectiveness of the policy. Hausmann et al. (2023) tested growth-promotion policies that predict widespread involvement, equal potential, and specific policy responses in South Africa on the basis that those policies are most effective to decrease inequality and creating a sustainable development path. Moreover, distributional implications of monetary policy are another central point of analysis in the present day. In a microdata cross-country study, Ampudia et al. (2018) reveal that the contractionary policy has negative impacts on low-income households, which are more vulnerable to credit limitations and informal labour. Iddrisu et al. (2023), in an investigation of the linkage between financial inclusion and inclusive growth in Africa, supported the role of the state of financial stability in the nexus between the two variables, thus supporting the positive effect of inclusion on equitable growth. Biswas and Ahamed (2023) evaluated the contribution of increased financial inclusion to improving the monetary transmission, economic participation, and macroeconomic performance of the developing economies. By applying a panel VAR model, Anarfo et al. (2019) have revealed that policy interventions are central to achieving access to financial services and the development of the sub-Saharan African region in an inclusive manner. Antwi et al. (2024) discovered that increased inclusion and a competitive banking framework support financial stability, thus supporting sustainable growth. Mehrotra and Nadhanael (2016) showed this, where higher rates of inclusion in the emerging Asian economies are the ones that lead to better monetary policy, better access to credit, and a fairer distribution of growth. Brandão-

The article by Marques et al. (2020) examined the process of transferring the monetary policy to the Global South world economies and in the recently industrialised countries. Their article highlights structural, institutional, and financial-market factors as significant determinants of the success of policy programmes, especially in terms of growth and inflationary performance.

Delis and Kouretas (2011) established that low interest rates would encourage banks to take more risk, whereas higher interest rates would limit risk-taking behaviour. In an analysis of the macro-economic environment in Uganda, Mawejje and Lakuma (2019) discovered that the increased adoption of mobile money results in an increase in financial inclusion, smoother

transactions, more effective transmission of money, and economic growth in general. Fiador, Opoku, and others (2022) studied the monetary policy in Africa and found that financial development and better institutional quality improve policy transmission, macroeconomic stability, and performance of the economy. Taiwo et al. (2023) investigated the subject of commodity-price shocks in Africa and established that resource dependence is a key factor to enhance economic instability, and those resource-dependent countries are highly susceptible to exogenous shocks.

To examine the interactions between advanced monetary policy impulses and tropical financial institutions, Al-Tal and Makiwa (2024) questioned how well advanced financial systems can expand the transmission of policy, improve macroeconomic responsiveness, and stability within national settings.  In the context of their research question on the effects of mobile money on the welfare of households in developing contexts, Apeti (2023) illustrates that the provision of digital financial services minimizes consumption volatility, income stabilisation, and economic resilience of households at risk.

### 2.2. Institutions as the Critical Mediating Framework

The Institutional quality variables have been made by the literature as a significant determinant of macro-economic results. The theory that Acemoglu and Robinson (2012) put forward assumes the prosperity of the long run based on the presence of institutions that decentralize power and, at the same time, are inclusive as well as extractive regimes. In the larger context of the financial market, this hypothesis can be used to support the validity and independence of central banking institutions, allowing the policy to be more effective.  Sturm et al. (2025) found that the extent of central-bank independence can alleviate inflation, but their study also argues that an increase in central-bank independence can increase income inequality and poverty when placed in a specific institutional and policy context. In one investigation by Rabhi and Parsons (2024), the authors explored the idea of central-bank independence in developing countries and discovered that central-bank independence is advantageous to price stability; nevertheless, its impacts on inequality depend on the quality of institutions and the particular central-bank policy regime. By examining the fiscal procyclicality of commodity-export states, Marioli and Vegh (2023) found that government spending is more procyclical since they depend on the revenues of commodities, institutional limits, and small countercyclical fiscal resources. Amaral (2017) examined the connection between monetary policy and inequality and found that any change in the interest rates and other policy instruments can affect the income distribution, sometimes contributing to the inequalities between socioeconomic groups. Onyam et al. (2025) assessed the fiscal dominance in Sub-Saharan Africa and found that government borrowing and government spending compromise the performance of the monetary policy, the ability of the central banks to control inflation and stabilize the economy is undermined. Barrie and Jackson (2022) used a simulation of fiscal preeminence in Sierra Leone with the help of a DSGE model that revealed that the failure of monetary policy, inflation, and negative impact on macroeconomic operations are the result of excessive government borrowing and fiscal pressures. Hooley et al. (2024) analyzed fiscal predominance and its impact on inflation in Sub-Saharan Africa and found that central banks are overworked by the over-borrowing of the government, leading to the failure of monetary policies and the increase of inflation. A

recent study by Sanga and Aziakpono (2023) that investigated the effects of institutional variables on financial deepening in 50 African countries also found that better governance, regulatory quality, and institutional effectiveness have positive effects on deeper, more inclusive, and more stable financial systems. The authors of a study by Saha and Dutta (2023) have examined the connection between financial inclusion and the impact on the macroprudential policy in times of economic crisis and found that the higher the inclusion, the more stable the finance, the more efficient the policy, and the fewer negative outcomes of the economic shocks.

### 2.3. Southern African Specificities and Empirical Evidence

The Southern African area would be an excellent case study as it has had growth and inclusion problems. Its reliance on commodities is preponderant, making its economy susceptible to terms-of-trade shocks. Ncube and Ndou (2013), in a case study of South Africa, use the example that monetary policy decisions become less responsive to the terms-of-trade shocks, which require the trade-off between the exchange rate stabilisation (and the resulting prices of imports) to stabilize the poor, and attainment of domestic growth goals. Mavundla et al. (2025) studied the monetary and fiscal policy coordination in South Africa. Their findings show that harmonized monetary and fiscal policies produce better macroeconomic results, growth, and alleviate inflationary and fiscal stress.

 Romelli (2025) has conducted a survey on de jure central-bank independence tendencies in the global arena, with the results showing changes in legal frameworks, requirements, and governing systems, and evaluated their effects on monetary policy credibility and institutional arrangements. A different study by Zungu et al. (2021) modelled nonlinear economic growth and inequality in the SADC region, which revealed that the effect of growth on inequality is different at different levels of income, and with major policy implications for inclusive development. Aklin et al. (2021) analyzed how independence of central banks affects inequality and concluded that even though independence can be helpful in ensuring price stability, it can unintentionally raise income inequality; a trade-off between price stability and equity was observed. In their experiment, Jack and Suri (2014) investigated the mobile money revolution in Kenya and discovered that mobile money lowers the transaction costs and provides a risk-sharing experience that increases the financial resilience of households, eases the consumption process, and expands access to economic opportunities, particularly among the low-income earners. The study by Guzman and Soto (2014) focused on the relationship between the commodity price shock and the imperfectly credible macroeconomic policies of a simple open economy that produces and exports commodities and found that the credibility of the policy is the key to the success of the stabilization policy and the economic stability in the external price shocks. Ngepah et al (2022) investigated the effects of commodity price shocks on the stability of banking systems in developing economies, and they noted that commodity price volatility increases financial vulnerability, financial stress, and risk exposure, especially in the highly commodity-export-driven economies. Research by Kunawotor et al. (2022) determined the distributional effects of fiscal and monetary policies in Africa. They found out that policy choices had different effects on income groups, thus affecting inequality, inclusive growth, and economic equity.

Finally, the literature indicates a need for policy innovation. A study by Marolagi and Vasishtha (2025) on procyclicality and fiscal volatility of the emerging and developing economies, which are commodity exporters, found that there is a shortage of countercyclical policies that creates instability and exposes economies to the risks of commodity price shocks.

Gornemann et al. (2016) explored the distributional consequences of the monetary policy and found that expansionary policy is more likely to raise the wealth of richer households, and the lower-income population is more likely to incur higher costs. This dynamic has great implications for the fairness of policy decisions. Frankel et al. (2013) proved that with increasing maturity, examined fiscal procyclicality, countries were likely to implement less pro-cyclical spending, thus increasing fiscal discipline, macroeconomic stability, and resiliency to external shocks. Apeti et al. (2023) examined the role of a fiscal rule as a device of imposing discipline in resource-rich countries and found that a properly designed fiscal rule can restrain pro-cyclical expenditure, enhance macroeconomic stability, and reduce exposure to commodity-price shocks.

Overall, the modern-day literature proves that the monetary policy cannot be considered as a neutral tool; its influence on inclusive development depends heavily on the institutional environment. Whereas most people agree on the importance of having strong, open, and inclusive institutions, there are still significant gaps in the knowledge on how the ideal monetary structures are to be established to meet a dual mandate in the context of a particular structural and institutional setting of Southern Africa. The proposed research question attempts to fill this analytical void by modelling and empirically testing the interactive implication of monetary policy postures and the aspects of multidimensional institutional quality.

## 3. Methodology

### 3.1. Data Sources and Inclusive Growth Index Construction

To obtain reliability and cross-country comparability for Botswana, Eswatini, Lesotho, Namibia, and South Africa economies, this study used the data obtained from internationally recognized repositories in the area of secondary sources. The governance indicators that are used in this paper are the ones released by the World Bank (WB) as the Worldwide Governance Indicators (WGI). The capitalized words are the six distinct dimensions that are Control of Corruption (CoC), Government Effectiveness (Geff), Regulatory Quality (RQ), Political Stability (PStability), Rule of Law (RoL), and Voice and Accountability (Voice & Acc). These indices are created by summing up a large number of perception-based surveys and expert measures, and we do not consolidate them into one major axis of measurement, a principal component analysis (PCA) index. Such an approach to methodology allows for considering how various dimensions of governance affect macroeconomic stability, the effectiveness of policy, and distributive aspects of inclusive growth more subtly.

The variables used in monetary policy are money supply (M2 % GDP), inflation (CPI), and policy interest rate, which are obtained in the World Development Indicators, and additional sources are taken from the IMF (International Monetary Fund). These variables are used as a proxy for the liquidity conditions, price stability, and cost of capital, which have an effect on making investment decisions, allocation of credit, aggregate demand, and ultimately distribution of income. Urban Population (UrbPop), calculated as a percentage of the total

population and obtained through the World Development Indicators are used as a control variable to explain the impact of demographic pressures and the structural transformation process that can determine the outcomes of inclusive development. It is complemented by the educational attainment (MYS) of the population aged 25 years and above available in the United Nations Development Programme (UNDP) and data on the World Development Indicators (WDI). The attainment of education is a measure of the overall human capital and attainment of skills that form the basis of productivity, labour-market participation, and wage mobility, as well as long-term sustainability of IGI.

Inclusive Growth Index (IGI) is made as per the multidimensional literature on inclusive growth. Based on the social opportunity models of Ali and Son (2007), the employment and capability expansion model of McKinley (2010), the distribution- Growth nexus model of Klasen (2010), and the growth acceleration model of Anand (2013) building up on Hausmann et al. (2005), the current study develops a composite IGI based on Human Development Index (HDI), Gender Inequality Index (GII), Gini Index, GDP per capita was used to construct Growth Acceleration as a dummy variable. The indicators are scaled with min-max transformation and are aggregated with Principal Component Analysis to make them theoretically coherent, reduce the dimensions, and be empirically robust.

This paper utilizes a dynamic panel econometric model in investigating the relationship among quality of institutions, monetary variables, and inclusive growth. Since the dataset is multi-country and different countries are likely interdependent, especially in developing regions, initial diagnostics is performed to have a strong estimation. The first diagnostic procedure is cross-sectional dependence testing based on the approach suggested by Pesaran (2004). The common shocks, regional spillovers, or global economic linkages can lead to cross-sectional dependency, and the failure to take into account this dependence can bias conventional panel estimators.

This is followed by a panel unit-root test, the Cross-Sectionally Augmented IPS (CIPS) test of Pesaran (2007), used to test the stationarity of the variables. The Cross-Sectionally Augmented Im-Pesaran-Shin (CIPS) test is, unlike the traditional first-generation panel unit-root tests, a test based on cross-sectional averages added as auxiliary variables in the Augmented Dickey-Fuller formulation, and therefore gives cross-sectional dependence in an explicit manner. This type of methodological option is particularly suitable when working with macro-panel data, where unobserved commonality can simultaneously have an impact on a variety of countries.

After determining the order of integration, long-run and short-run dynamics are estimated with the help of the Pooled Mean Group (PMG) estimator that was postulated by Pesaran, Shin, and Smith (1999). The Pooled Mean Group (PMG) model, which is built on the Autoregressive Distributed Lag (ARDL) specification, enables short-run dynamics (along with the error variances) to differ across countries, but long-run coefficients are treated as homogeneous. This may be true when the relationship between countries in the long-run structures is similar and yet diverse in the short-run adjustment mechanisms. It is then re-parameterized to transform the model into an error correction form in order to capture the relations of the equilibrium as well as the rate at which the equilibrium is being corrected.

The operations are assembled to provide methodological rigor in the shape of cross-sectional dependence, mixed integration orders, and dynamically heterogeneous panel structure.

### 3.2.    Cross-Sectional Dependence (CD) Test

Before any panel estimation is carried out, cross-sectional dependence has to be checked. Whereby the shocks of one country on other countries should be established. The residual-based test can be represented using Pesaran's (2004) CD framework as follows:

$$CD = \frac{\sqrt{2T}}{N(N-1)} \sum_{j=i+1}^{N} \hat{\rho}_{ij}$$

$where$:

$N$ = number of cross-sections (countries), $T$ = time dimension,

$\hat{\rho}_{ij}$ = pairwise correlation of residuals from:

$$IGI_{it} = \alpha_i + \beta'X_{it} + \varepsilon_{it}$$

$and$,

$$X_{it} = \left(\text{PStab}_{it}, \text{CoC}_{it,} \text{GEff}_{it,} \text{RQ}_{it,} \text{RoL}_{it,} \text{Voi and Acc}_{it}, M2_{it}, Inf_{it}, Irate_{it,} Edu_{it,} UPop_{it}\right)$$
$and$,

$X_{it}$ = Six governance indicators, Education, demographic, and macroeconomics variables

### 3.3. The Unit root test (CIPS) Panel

Since the cross-sectional dependence is one of the problems that can occur, the Cross-Sectionally Augmented IPS (CIPS) test is employed. The cross-sectionally augmented Dickey-Fuller (CADF)-regression:

$$\triangle y_{it} = \alpha_i + b_i y_{it} + c_i \bar{y}_{t-1} + d_i \triangle \bar{y}_t + \sum_{k=1}^{p} \gamma_{ik\triangle} y_{i,t-k} + u_{it}$$

$where$:

$\bar{y}_t$ = cross-sectional average of $y_{it}$.
The CIPS statistic is calculated thus:

$$\text{CIPS} = \frac{1}{N} \sum_{i=1}^{N} t_i(N,T)$$

This procedure is applied thus:

$$IGI_{it}, \text{PStab}_{it}, \text{CoC}_{it,} \text{GEff}_{it,} \text{RQ}_{it,} \text{RoL}_{it,} \text{Voi \& Acc}_{it}, M2_{it}, Inf_{it,} Irate_{it} \text{ and } UPop_{it}$$

### 3.4. Pooled Mean Group (PMG-ARDL) Model

In case the variables are integrated of order I(1) and I(0), the Panel ARDL (PMG) model of Pesaran, Shin, and Smith (1999) may be used.
The ARDL $(p, q, q, \dots q)$ specification:

$$IGI_{it} = \sum_{j=1}^{p} \phi_{ij} IGI_{i,t-j} + \sum_{j=0}^{q} \beta_{1ij} M2_{i,t-j} + \sum_{j=0}^{q} \beta_{2ij} Inf_{i,t-j} + \sum_{j=0}^{q} \beta_{3ij} Irate_{i,t-j}$$

$$+ \sum_{j=0}^{q} \beta_{4ij} PStab_{i,t-j} + \sum_{j=0}^{q} \beta_{5ij} CoC_{i,t-j} + \sum_{j=0}^{q} \beta_{6ij} GEff_{i,t-j} + \sum_{j=0}^{q} \beta_{7ij} RQ_{i,t-j}$$

$$+ \sum_{j=0}^{q} \beta_{8ij} RoL_{i,t-j} + \sum_{j=0}^{q} \beta_{9ij} Voi \& ACc_{i,t-j} + \sum_{j=0}^{q} \beta_{10ij} UPop_{i,t-j} + \mu_i + \varepsilon_{it}$$

In other words, restatement in the form of the Error Correction Component or Model (ECM):

$$\triangle IGI_{it} = \lambda_i \big( IGI_{i,t-1} - \rho_1 M2_{i,t-1} - \rho_2 Inf_{i,t-1} - \rho_3 Irate_{i,t-1} - \rho_4 PStab_{i,t-1} -$$
$$\rho_5 CoC_{i,t-1} - \rho_6 GEff_{i,t-1} - \rho_7 RQ_{i,t-1} - \rho_8 RoL_{i,t-1} - \rho_9 Voi \& Acc_{i,t-1} - \rho_{10} UPop_{i,t-1} -$$
$$\sum \psi_{ij} \triangle IGI_{i,t-j} + \sum \gamma_{ij} \triangle X_{i,t-j} + \mu_i + \varepsilon_{it} \big)$$

$where$:

- In the PMG specification, $\lambda_i$ is the speed of adjustment (and is expected to be negative and statistically significant)
- $\rho_1, \dots, \rho_{10}$ = are long-run coefficients that are assumed homogeneous across countries
- $\triangle \psi_{ij\ and}\ \triangle X_{i,t-j} =$ are short-run dynamics that are allowed to differ across countries

## 4. Empirical Results and Discussions

The following section will continue to discuss in detail the empirical evidence that was obtained because of a study that investigated the connection between monetary policy, institutional quality, and inclusive growth in Southern Africa. This analysis is conducted in three logical, consecutive steps because the steps are described in the following sections in Section 3. On the one hand, the existence of a long-term cointegrating relationship between the variables is determined by the descriptive statistics and a unit-root test. The second step is estimation and discussion of the long-run relationship and short-run dynamics as per the PMG-ARDL model.

### 4.1. Descriptive Statistics and Stationarity Analysis

Table 1 indicates the description of the statistics of the whole panel. The first analysis shows that there is a large discrepancy between the sampled countries, which highlights the heterogeneity of the Southern African economic environment. The mean of the institutional quality indices, which are based on the Worldwide Governance Indicators, is close to zero, and the range of the values is large, as they indicate the great diversity of the experience of the governance of the region, in terms of relatively good institutions or facing serious issues. An example is the Government Effectiveness, whose mean is -0.12 and standard deviation is 0.46. The macroeconomic variables are much dispersed: the mean CPI inflation is 5.76, with a variation of 1.89 to 12.66, which shows both a stable and moderate price pressure situation. The average inclusive growth index stands at 0.52, and the range spans between 0.22 and 0.77, indicating that the results of equitable development vary considerably across countries and time.

Table 1: Descriptive Statistics Analysis

| Variable | Obs | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|---|
| **Political Stability** | 80 | 0.23 | 0.59 | -0.75 | 1.20 |
| **Control of Corruption** | 80 | 0.14 | 0.42 | -0.73 | 1.02 |
| **Government Effectiveness** | 80 | -0.12 | 0.46 | -0.98 | 0.52 |
| **Regulatory Quality** | 80 | -0.02 | 0.46 | -0.76 | 0.76 |
| **Rule of Law** | 80 | 0.01 | 0.38 | -0.65 | 0.61 |
| **Voice and Acc** | 80 | 0.06 | 0.73 | -1.45 | 0.78 |
| **Education (MYS)** | 80 | 7.73 | 2.13 | 3.66 | 11.61 |
| **M2%GDP** | 80 | 47.82 | 15.73 | 22.35 | 74.04 |
| **Inflation (CPI)** | 80 | 5.76 | 2.28 | 1.89 | 12.66 |
| **Interest Rate** | 80 | 3.75 | 3.63 | -7.40 | 11.90 |
| **Urban Population** | 80 | 7962288.00 | 14300000.00 | 240262.00 | 41600000.00 |
| **Inclusive Growth** | 80 | 0.52 | 0.14 | 0.22 | 0.77 |

The series integration orders must be identified before the cointegration analysis is carried out in order to avoid spurious regression. We used the Im-Pesaran-Shin (IPS) panel unit-root parameter, which is able to accept heterogeneous autoregressive parameter roots, and the obtained result is shown in Table 2. The null hypothesis of a unit root at a 5 percent significance level still holds in all six institutional variables, such as Political Stability, Control of corruption, Government effectiveness, Regulatory Quality, Rule of law, and Voice and Accountability, since the p-values are greater than 0.05. Similarly, the urban-population variable is nonstationary at the level. In comparison, the monetary variables viz., Inflation, Money Supply, and Interest rate in combination with the variable Education, and the dependent variable, the Inclusive Growth Index are at level I(0).

Table 2: Panel unit-root test results of IPS (Im-Pesaran -Shin) Level.

| Variable | t-bar Statistic | Z-t-tilde-bar | p-value | Decision (at 5%) |
|---|---|---|---|---|
| **PStability** | -2.0362 | -1.1933 | 0.1164 | Non-stationary |
| **CoC** | -1.813 | 0.4327 | 0.6674 | Non-stationary |
| **GEff** | -1.1462 | 1.1019 | 0.8648 | Non-stationary |
| **RQ** | -1.8547 | -0.5791 | 0.2812 | Non-stationary |
| **RoL** | -1.4694 | 0.0625 | 0.5249 | Non-stationary |
| **Voice and Acc** | -1.3641 | 0.4399 | 0.67 | Non-stationary |
| **Edu (MYS)** | -2.9085 | -2.7441 | 0.003 | Stationary |
| **M2 (% GDP)** | -2.7426 | -2.5898 | 0.0048 | Stationary |
| **Inf (CPI)** | -3.9594 | -3.9715 | 0 | Stationary |
| **IRate** | -3.6083 | -3.7844 | 0.0001 | Stationary |
| **UrbPop** | 4.4505 | 9.0146 | 1 | Non-stationary |
| **IGI** | -5.0975 | -4.9639 | 0 | Stationary |

Table 3 shows the IPS test on the first-differenced series. After the difference, the former non-stationary institutional variables obtain the stationarity and are of order one, I(1). The differences of the monetary variables and the inclusive growth index, which was initially I(0),

are also stationary. The Education variable, which is a stationary variable in terms of the level value, becomes non- Stationary in terms of difference, as it is of Type I(0) property. The urban-population variable is hard to categorize; the existence of the I(0) and I(1) variables indicates that the ARDL model would be the best specification to be used in further analysis because of its ability to deal with the heterogeneity.

Table 2: Im-Pesaran-Shin (IPS) Panel Unit Root Test Results at First Difference

| Variable | t-bar Statistic | Z-t-tilde-bar | p-value | Decision (at 5%) |
|---|---|---|---|---|
| **D.Political Stability** | -5.0591 | -4.8155 | 0 | Stationary |
| **D.Control of Corruption** | -5.8069 | -4.7709 | 0 | Stationary |
| **D.Government Effectiveness** | -4.3912 | -4.1648 | 0 | Stationary |
| **D.Regulatory Quality** | -5.1591 | -4.549 | 0 | Stationary |
| **D.Rule of Law** | -3.9659 | -3.9905 | 0 | Stationary |
| **D.Voice and Accountability** | -3.3923 | -3.322 | 0.0004 | Stationary |
| **D.Education (MYS)** | -0.7893 | 2.8826 | 0.998 | Non-stationary |
| **D.M2 % GDP** | -5.1252 | -4.8481 | 0 | Stationary |
| **D.Inflation (CPI)** | -4.0021 | -4.0575 | 0 | Stationary |
| **D.Interest Rate** | -5.5624 | -4.9076 | 0 | Stationary |
| **D.Urban Population** | -1.8492 | -0.4468 | 0.3275 | Non-stationary |
| **D.Inclusive Growth Index** | -6.5306 | -5.3538 | 0 | Stationary |

## 4.2. Testing for Long-Run Equilibrium: Panel Cointegration Results

As our model contains I(1) variables, we test the existence of a long-run equilibrium by the Pedroni (1999) panel cointegration that can have non-homogenous cointegration vectors between panel units. No cointegration is given in the null hypothesis. Table 4 indicates a strong negative value of the null hypothesis: The three test statistics, the Modified Phillips-Perron *t*, the Phillips-Perron *t*, and the Augmented Dickey-Fuller *t*, are all significant at the 1 percent level. This homogeneous rejection is a great indication of a steady long-run association between inclusive growth and the combined assumption of the monetary policy variables and institutional quality indicators in Southern Africa. This fact is of high significance, as it implies that regardless of temporary changes and the idiosyncratic shocks, the variables under consideration have a common stochastic process, and they move only in one direction in the long-term in a stable equilibrium. The second step of the analysis is rational, as once a long-run equilibrium has been reached, the parameters can be estimated and the short-run processes of adjustment can be examined with the help of an error-correction model.

*Table 5: Results of the Pedroni (1999, 2004) Panel Cointegration Test*

| Test Statistic | Value | p-value | Decision |
|---|---|---|---|
| **Modified Phillips–Perron t** | 2.6384 | 0.0042 | Reject H$_o$ |
| **Phillips–Perron t** | −4.8451 | 0 | Reject H$_o$ |
| **Augmented Dickey–Fuller t** | −4.6754 | 0 | Reject H$_o$ |

## 4.3. PMG-ARDL Estimation of Long-Run and Short-Run Dynamics

Table 5 shows the estimated coefficients of the Pooled Mean Group -Autoregressive Distributed Lag (PMG-ARDL) model. The PMG estimator gives an effective way of estimating

both the homogeneous long-run equilibrium parameters and the heterogeneous short-run dynamics.

*Table 6: The long-run and short-run dynamic estimates of PMG-ARDL*

| Variable | Type | Coefficient | Std. Error | z-stat | p-value |
|---|---|---|---|---|---|
| **Long-Run Estimates** | | | | | |
| **UrbanPop** | Long-run | 1.95E-08 | 1.17E-08 | 1.66 | 0.096 |
| **InterestRate** | Long-run | −0.0049585 | 0.003594 | −1.38 | 0.168 |
| **Inf (CPI)** | Long-run | 0.0156507 | 0.004954 | 3.16 | 0.002 |
| **M2 (%GDP)** | Long-run | 0.0000531 | 0.00345 | 0.02 | 0.988 |
| **Government Effectiveness** | Long-run | 0.1467225 | 0.146712 | 1 | 0.317 |
| **Control of Corruption** | Long-run | −0.1363489 | 0.078084 | −1.75 | 0.081 |
| **Political Stability** | Long-run | 0.1190652 | 0.111756 | 1.07 | 0.287 |
| **Error-Correction Term** | | | | | |
| **ECM(−1)** | Adjustment speed | -0.955772 | 0.219662 | 4.35 | 0 |
| **Short-Run Estimates (First Differences)** | | | | | |
| **D(UrbanPop)** | Short-run | −0.0000146 | 9.22E-06 | −1.58 | 0.113 |
| **D(InterestRate)** | Short-run | 0.0049152 | 0.003272 | 1.5 | 0.133 |
| **D(Inf-CPI)** | Short-run | 0.0022452 | 0.007582 | 0.3 | 0.767 |
| **D(M2%GDP)** | Short-run | −0.0095474 | 0.004925 | −1.94 | 0.053 |
| **D(Government Effectiveness)** | Short-run | 0.0323341 | 0.293823 | 0.11 | 0.912 |
| **D(Control of Corruption)** | Short-run | 0.0133212 | 0.381611 | 0.03 | 0.972 |
| **D(Political Stability)** | Short-run | −0.0589676 | 0.067148 | −0.88 | 0.38 |
| **Constant** | Short-run | −0.0493024 | 0.151637 | −0.33 | 0.745 |

### 4.3.1. Interpretation of Long-Run Coefficients

The long-run estimates provide several insightful and in some cases nuanced relationships.
Inflation and Inclusive Growth: The inflation coefficient (Inf-CPI) has a positive value (0.0157) and is significant at the 1 percent level. This finding, though it seems to be counterintuitive in a conventional stability-oriented framework, can be justified in the frame of our sample. This indicates that the average rate of inflation of 5.76 00:00 percent is connected to a positive factor that could be explained by a dynamic process of interaction between demand and supply, and temporarily increases employment and income among the lower income segment of the income distribution. This causes a short and medium-term increase in the inclusive growth index, then, when the counterproductive redistribution effects of an increase in price levels occur, as pointed out by Fischer (1993).

The urban population is positive and statistically significant at the 10% level (p=0.096). This observation is consistent with the agglomeration-economics theory that inclusive economic growth can be stimulated by agglomerating activity in city centres, and thus creating employment and enhancing the provision of basic services, education, and infrastructure (Glaeser, 2011). The marginal significance depicts that there is a positive relationship, but this might not be constant across all the Southern African urban settings.

The Control of Corruption has a negative coefficient of (-0.136) and is statistically significant at the 10 % level (p = 0.081). The negative sign might be at first sight confusing. However, in the context of the Worldwide Governance Indicators, a high score implies more effective control over corruption, so the negative coefficient indicates that the weaker the anti-corruption governance (the lower the score) in this respect, the lower the inclusive growth is. This finding is corroborated by the theoretical literature (Mauro, 1995) and supports the negative long-term effects of institutional failure on equitable development.

The Variables such as money supply (M2), Interest rate (IRate), Government Effectiveness (Geff), and Political Stability (PStability) are not significant statistically in the long-run equation. The weakness of the IRate and M2 recommends inefficient monetary transmission systems in the region; the literature presents this argument (Mishra and Montiel, 2016). The other governance indicators do not seem to affect the dependent variable directly in a statistically significant way, but can affect it indirectly via macro-economic stability or by affecting the monetary policy, and do not have a strong independent effect in this model specification.

### 4.3.2. The Error Correction and Short-Run Dynamics

The error-correcting term, ECM (-1), is the most prominent sign of a long-run stable correlation. Its coefficient is -0.956, and the p-value is 0.000. This large negative parameter denotes a fast adjustment process: the non-equilibrium position in the long-run inclusive-growth situation is significantly eliminated in a single fiscal year, and the equilibrium is regained at about 95.6 of the initial difference. This gives credence to the power of the cointegrating relationship found above and demonstrates that the system is extremely self-equilibrating. The shocks to inclusive growth are therefore transitory, and the economy soon goes back to the long-term pattern, which is determined by the fundamental variables.

As can be expected, the estimates of the lower panel of Table 5 of the short-run coefficients are heterogeneous and not significant in most cases. This is a proven fact in PMG estimation and justifies the methodological decision, which gives individual countries the liberty to pursue their respective short-term adjustment processes but share the same long-run equilibrium. The single coefficient that is approaching significance is the first-differenced money supply (D.M2 %GDP) which is negative at the 10 percent level (p = 0.053), indicating that there is a likelihood of short run as a level of monetary neutrality or even contraction in some countries.

### 5.  Conclusion and Policy Recommendations

The research paper addresses one of the major questions that ought to be addressed to the growth route of the Southern African region. How far do the monetary policy and institutional quality dynamics determine an inclusive growth? In an empirical study of five Southern African Development Community (SADC) economies, where we focus on the period spanning

2008 to 2023, we use a strict econometric model and omit short-run dynamics to estimate the relationship of the long-run equilibrium. We are going to ensure that we capture the dynamics between the composite inclusive-growth indicator and the monetary and institutional variables. The outcomes provide a deeper understanding than uninformed policy prescriptions, bringing to focus the interdependent quality of equitable development. The long-run cointegrating relation, which is estimated between the inclusive-growth composite and the main monetary variables and the institutional determinants, has an extremely high degree of linkage as statistical diagnostics test.

This helps in arguing that inclusive growth in the area is systematically connected with the macro-institutional environment. The negative coefficient of error-correction (−0.956) is significantly negative, indicating a strong tendency toward equilibrium, and the deviations are easily corrected. In turn, the effect of short-term policy or external shocks is short-lived, whereas the long-term path of inclusiveness is determined by structural or institutional fundamentals.

The long-run PMG-ARDL estimates are a bit of a complicated scenario. The positive correlation, which is statistically significant between moderate inflation and inclusive growth, shows that in the scenario sampled, demand-boosting price increments can have temporary positive effects on low-income participation. Nevertheless, this observation needs to be approached with caution, and it cannot be taken to mean that high inflation is encouraged, but it can be used as an indicator of the possibility of growth inclusion trade-offs in the short-to medium-term. Urbanisation comes out as a small but significant factor of inclusion, which explains the significance of agglomeration economies in terms of employment opportunity and service delivery. Notably, the quality of institutions is decisive. The correlation with the Control of Corruption indicator is negative, as the higher the score, the lower the corruption, indicating that endemic corruption inevitably suppresses fair development. In the long-run equation, the statistical insignificance of one of the monetary variables (interest rate) is not obtained. In addition to some of the governance measures, there are potential weaknesses in the monetary transmission mechanisms, implying that the effect of the institutions can often be indirect, acting through the credibility and effectiveness of macroeconomic policy.

These findings have far-reaching consequences for policymakers in Southern Africa who would want to bridge the growth-inclusion divide:

1. **Beyond Monetary Technocracy:** Central banks have to understand that their policy instruments are a part of a larger institutional ecosystem. A more focused inflation-targeting mandate that ignores the institutional quality can pay small inclusive growth payoffs. The monetary policy must be designed with clear knowledge of its distributional effects and the intensity of local transmission mechanisms, especially on the SMEs and low-income households.

2. **The Primacy of Institutional Reform:** The war on corruption is not just a governance thing, or a moral requirement, but an essential economic policy of inclusive development. Our findings indicate that more lasting, enduring positive effects on inclusion are likely to be achieved through the enhancement of institutions, in particular, those dealing with the rule of law, transparency, and accountability, as compared to fine-tuning of monetary instruments. In light of these results, the independence of the central bank, strengthening of

the financial regulatory framework, and weakening of fiscal dominance become essential policy concerns that should be given distinct attention.

3. **Using Urbanization to its advantage**: The beneficial relationship between Urbanization and proactive, inclusive urban planning. The policymakers ought to work on ensuring that urban centres are engines of fair development through investing in affordable housing, mass transit, and social amenities so as to make sure that urban sprawl is not only beneficial to the vast majority of citizens but also not a contributor to spatial inequality.

4. **Implementation of a Synergistic Policy framework:** The main lesson learnt is that policy synergy is required. Strong institutions are necessary to support effective and appropriate monetary policy, which a sound macroeconomic environment enhances. That is why a combination method is crucial. The policies of fiscal, monetary, and structural governance should be consistent and complementary with each other, and need to be formulated with the dual clear purpose of having a stable and equitable environment.

To conclude, this research paper indicates that development and inclusion in Southern Africa is not a simple tasks, and it is at the crossroads of macroeconomic management and institutional integrity. No single lever policy is present. It is not the isolated interventions that will bring about sustainable and equitable development, but a serious, coordinated approach that would combine sound monetary stewardship with unyielding determination to establish inclusive, transparent, and effective institutions. The study may be developed in future studies by including finer measures of financial inclusion, studying the nonlinearities between inflation and inclusion, as well as using models that specifically test the interaction effects between certain monetary policy and discrete institutional dimensions.

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