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Evaluating the determinants of income inequality in South Africa: An ARDL approach

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Abstract

Keywords:

- Gini coefficient
- Inflation
- Democracy
- Economic reform
- Inequality
- ARDL
- South Africa

This paper aims to build on previous studies and investigate the determinants of income inequality in South Africa with a special focus on the role of inflation. The study examines various variables capturing demographic, structural, economic, and political factors that are deemed to be triggering or reducing income inequality, according to previous literature. In the empirical investigation, the study employs the autoregressive distributed lag (ARDL) approach to cointegration and examines both the short-run and long-run determinants of income inequality in South Africa. The findings reveal that inflation has an aggravating effect on income inequality in the short run and no effect in the long run. In comparison, democracy, government expenditure, bank-based financial development and female labor participation have a significant short-run impact on income inequality, though the magnitude and signs of these variables differ. Based on the findings, this study recommends that efforts to increase the availability and accessibility of credit to the private sector could be promoted by policymakers in South Africa while ensuring that credit extension does not trigger inflation, as it did during the period before 1990. In this view, strategic interventions from various stakeholders, such as the government, the banking sector, local communities, and private entities, could provide finance for development in a manner that would mitigate the gaps arising from unequal opportunities in South Africa.

1. Introduction

Income inequality is not just a socioeconomic phenomenon but is also emphasized in the United Nations' Sustainable Development Goals (SDGs). Specifically, the first target of SDG 10 sets out to ensure that by 2030, nations have harnessed and sustained an income growth rate of the bottom 40 percent of the population at a rate above the national average. South Africa, on the other hand, has been stated to be one of the highly unequal economies in the world (Bhorat et al., 2009; Mdingi and Ho, 2023; Tregenna and Tsela, 2012; World Bank, 2018). Apart from its average Gini index exceeding 60 percent over the past four decades, approximately the top 20 percent of the population in South Africa holds more than 68 percent of the income in the country, whereas the bottom 40 percent holds only 7 percent of the income (International Monetary Fund, 2020).

The persistent high levels of income inequality in South Africa are despite the country's continued efforts to implement policies aimed at creating additional opportunities for the previously disadvantaged members of the society. Coming from the previous apartheid regime, the first democratic government, established in 1994, introduced pro-poor social policies aimed at reducing inequality, poverty, and unemployment. Among others, these policies include the Growth, Employment and Redistribution (GEAR) framework, the Reconstruction and Development Programme (RDP) and the Accelerated and Shared Growth Initiative for South Africa (ASGISA). Notwithstanding the interventions adopted by the government, income inequality in South Africa is escalating and intensifying (Francis and Webster, 2019; Leibbrandt et al., 2011), which suggests that they have not been successful in achieving their intended goals (Triegaard, 2006).

There are various factors that can be attributed to rising income inequality in South Africa, but the country's previous dual economic system, which was based on race, has been identified as one of the causes. In this context, while Leibbrandt and Woolard (2001) and Hundenborn et al. (2018) argue that wage income is the primary source of income inequality in present-day South Africa, Shifa et al. (2023) indicate that rising income inequality in post-apartheid South Africa is due to a mix of factors. Such factors include the country's history alongside political,

socioeconomic, and institutional factors. There is, however, very little, if any, mention by previous studies of the role of inflation in income inequality in South Africa. The present paper, therefore, contributes to the literature by focusing on the role of inflation with a special emphasis on its decomposed effects on income equality.

Underscored by previous studies, including Dornbusch and Edwards (1990), Romer and Romer (1998), Easterly and Fischer (2001), and Law and Soon (2020), the present study considers inflation as having a potential impact on income inequality in South Africa. Because South Africa's inflation is monitored and controlled by the South African Reserve Bank, this study proposes that it could be useful for monetary authorities to identify the levels of inflation rate at which income inequality is likely to be aggravated, either by positive shocks or negative shocks to inflation.

This paper is organized as follows: after the introduction, the next section presents a theoretical and empirical literature review, followed by a discussion on income inequality in South Africa. Thereafter, the methodology and discussion of the empirical results are presented, and the last section provides concluding remarks.

2. Literature review

The extant literature, including Furceri and Ostry (2019), Odedokun and Round (2001), and Zhou and Song (2016), identifies the key determinants of income inequality as emanating from demographic, political, institutional, and socioeconomic factors. Demographic factors include but are not limited to gender variation, population distribution, industrialization and urbanization patterns, heterogeneity in education, or duality between the rich and the poor (Afandi et al., 2017; Furceri and Ostry, 2019; Lam, 1997). Nonetheless, economic development has featured as a fundamental factor in the empirical investigation of income inequality owing to the earlier work of the Kuznets (1955) hypothesis. The central message of this hypothesis is that income inequality varies according to the phases of economic development during which an economy would be in transition from preindustrial to industrial civilization.

Referring to the views of Kuznets (1955), in the early stages of economic development, income inequality tends to increase until it reaches a turning point. Beyond this turning point, income inequality would decrease as the economy becomes highly industrialized. Such an inverted U-shaped relation between per capita income growth and income inequality has sometimes been proven true, for example, in the case of Southern Africa (Anyanwu, 2016) and OECD countries (Toyozaawa et al., 2023). In other cases, the inverted U-shape underlying the Kuznets hypothesis is found to be either occurring multiple times, as in the case of Thailand (Ikemoto and Uehara, 2000), or is utterly refuted, as in the case of the United States economy in recent years (Blanco and Ram, 2019).

While Kuznets (1955) places much significance on the role of economic development in determining income inequality, empirical evidence offers different explanations for the sources of income inequality based on the investigated countries and regions. For example, Lee et al. (2013) find that the major source of income inequality in Korea is the aging population, which they find to aggravate inequality. However, their study further finds that an increase in investment tends to decrease income inequality, which is closer to the findings from Indonesia by Afandi et al. (2017), according to whom an increased share of finance reduces income inequality.

Focusing on the determinants of income inequality in OECD countries, Tridico (2018) finds that, among other factors, income inequality is caused by an increase in financialization, which is concordant with Furceri and Ostry (2019), who argue that financial globalization is associated with higher income inequality in both advanced economies and developing economies.

Evidence from South Africa shows that labor market income has been the key driver of high levels of income inequality in South Africa, especially during the first 20 years after democracy (Hundenborn et al 2018). Nevertheless, financial deepening, measured by bank credit to the private sector, has been found to reduce inequality in South Africa (Biyase and Chisadza, 2023). Regarding the relationship between financial development and income inequality in South Africa, Hassan and Meyer (2021) argue that financial development initially narrows the income inequality gap up to a threshold beyond which the gap widens. This behavior is analogous to the U-shaped Kuznets curve as opposed to the traditional inverted-U Kuznets curve.

Relevance of the determinants of income inequality to South Africa

The current study acknowledges and employs some of the variables that have been suggested as potential determinants of income inequality by previous studies. These variables are explained in detail in the methodology section of this paper. To bridge the gap in the literature on the determinants of income inequality in South Africa, reference is made in the current study to three new variables that are horned at the role of democracy, inflation, and female labor force participation. The inclusion of these variables in the empirical analysis of the current study enables more practical evidence and pertinent conclusions to be gathered for South Africa.

Political and institutional factors

On political grounds, South Africa's democracy can be regarded as peculiar, given that it was attained last among other countries on the African continent. With the new democratic dispensation inception in 1994, the South African government made concessionary efforts by mobilizing the budget to reduce unemployment, poverty, and inequality in the country. The Growth, Employment and Redistribution (GEAR) framework, the Reconstruction and Development Programme (RDP) and the Accelerated and Shared Growth Initiative for South Africa (ASGISA) are some of the interventions that were implemented following the country's democracy. However, despite these various interventions that have been introduced in South Africa, income inequality in the country is escalating and intensifying (Francis and Webster, 2019; Leibbrandt et al., 2011; Triegaardt, 2006).

At this juncture, there is an indication that whether income inequality can be significantly reduced by social choice factors is controversial. Hence, there are mixed views concerning, for example, the effectiveness of the amount of government expenditure in reducing income inequality. In an earlier study involving African countries, Odedokun and Round (2001) find mixed results regarding the share of government expenditure in GDP and its effect on income inequality. In contrast, Milanović (1994) finds that a higher level of government involvement in the economy through social transfers and state employment reduces income inequality.

Economic factors

In terms of monetary policy developments, the South African Reserve Bank adopted different policy frameworks during the period from 1965 to 2022, which were utilized to manage inflation in the country. These include *direct controls, market-oriented monetary policy, classical cash reserve systems, repo systems, and inflation targeting*. Table 1 provides a summary of South Africa's monetary policy frameworks during the period reviewed in the present study (1975 – 2019).

Table 1: South Africa's inflation dynamics under different monetary regimes

Period	Monetary policy regime	Targets or instruments	Inflation dynamics
1975 - 1980	Direct controls	Adjustments in the bank rate to influence bank credit to the private sector	Double-digit/very high rate of inflation due to fast pace of increase in prices of imported goods
1981 - 1989	Market-oriented monetary policy	M3 and market forces determined the interest rates., i.e., the conduct of monetary policy	Double-digit inflation due to: (i) an increase in aggregate demand for money; (ii) an increase in credit extended to the private sector
1990 - 1999	Eclectic monetary	Money supply growth guidelines in use; adoption of the classical cash reserve system	Annual inflation averaged 9.9 percent during this period
1998	Repo system	Flexible repo rate introduced in March 1998. Fixed repo rate introduced in May 1998	Inflation at 6.9 per cent
2000 - 2025	Inflation targeting	3 – 6% target band adopted until November 2025	Predominantly single-digit inflation though mostly toward the upper band
2025 -	Point inflation target	3% point target adopted	Single digit inflation at lower levels

Source: Compiled by the author based on Madito and Odhiambo (2018); Rossouw (2007); SARB (1975), (1981), (1990), and (2026); Stats SA (2023).

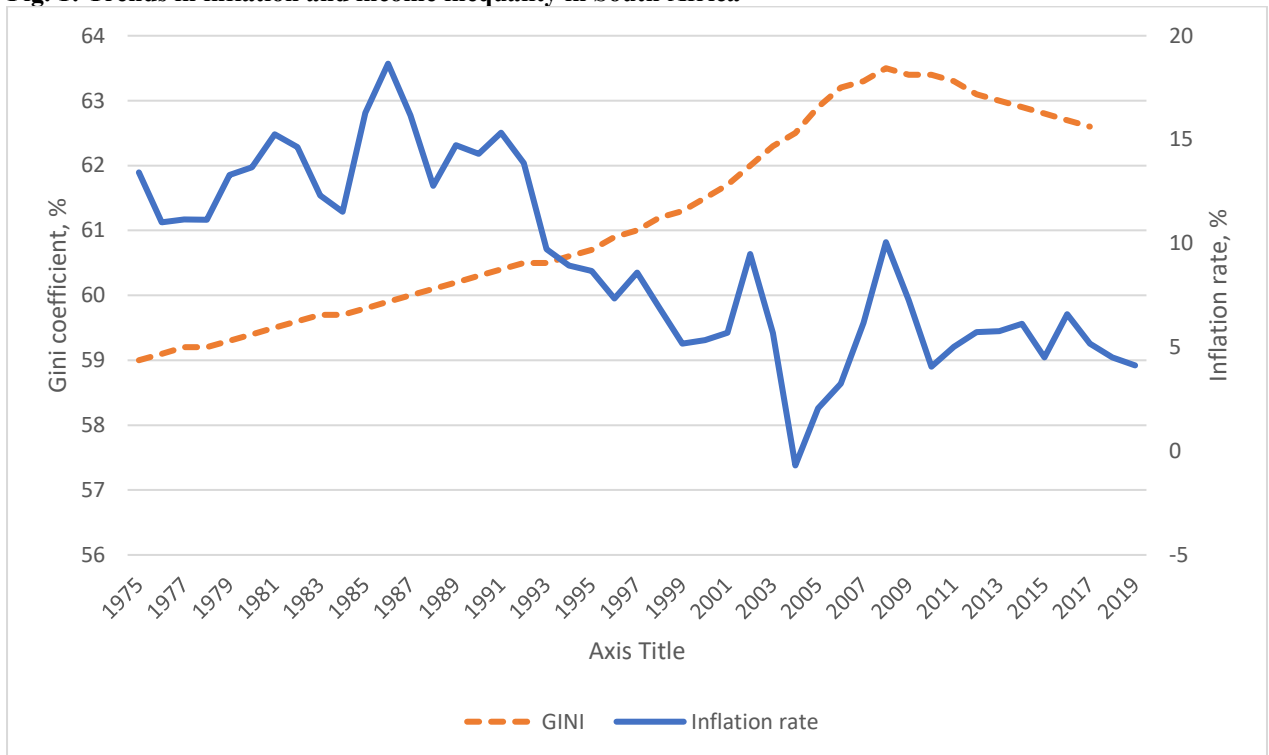
Table 1 and Figure 1 indicate that during the period preceding the transition to democracy, which is from 1975 to 1989, South Africa had double-digit inflation, whereas inequality levels remained between 59 and 60 percent. In terms

of monetary policy developments, the South African Reserve Bank (SARB) changed from direct controls to market-oriented monetary policy. With direct controls, the SARB could influence bank credit to the private sector by controlling the adjustments in the bank rate. However, with market-oriented policy, broad money (M3) and market forces determined the interest rates, thereby influencing credit extended to the private sector.

Moving from market-oriented monetary policy, an eclectic approach to monetary policy was adopted by the SARB, and subsequently, the economy recorded a single-digit inflation averaging 9.9 percent during the period between 1990 and 1999. Within that period, a flexible repo system was introduced in March 1998, followed by the fixed repo system in May 1998. From 2000 to November 2025, the inflation targeting framework was introduced with a target band set at 3-6%. After November 2025, a point inflation target of 3%, with a tolerance band of plus or minus 1%, was adopted (SARB, 2026).

With the inflation targeting regime, the SARB uses forecasts of headline inflation as its operational target. (2020). As expounded by the SARB (2026), with an inflation targeting framework, there is some flexibility that helps reduce volatility in interest rates and output. Subsequently, the period following the implementation of inflation targeting in South Africa has mostly witnessed single-digit rates of inflation except for 2008, which is a year that was associated with the global financial crisis.

Fig. 1: Trends in inflation and income inequality in South Africa



Source: Constructed by the author using data from Solt (2019) and World Bank (2019)

Demographic factors

Regarding inequality levels in South Africa, moving from the 1990s to recent times, inequality levels are much higher at over 60 percent, although inflation remains at single digits (Figure 1). Moreover, South Africa's inequality gap seems to be taking a new dimension, which is likely to be exacerbated by gender-related imbalances. These imbalances relate to the predominance of female-headed households and the wage gap that exists between male and female earnings. Consequently, due to gender imbalances, female-headed households tend to be susceptible to inequality due to insufficient educational attainment and poverty facing the average female in South Africa, particularly those based in rural areas (Woolard, 2002).

Recent evidence from the International Labor Organization (2022) shows that the proportion of South Africa's female laborers participating in the labor market has increased significantly from 24.1 percent in 1975 to 52.2 percent in

2017. However, the increased female labor force participation in South Africa could be regarded as adding to the existing wage gap for reasons explained by previous studies. Woolard (2002), for instance, argues that South Africa's labor market conditions seem to be more favorable toward males than females. Paradoxically, in South Africa's National Development Plan: Vision 2030, the government commits to reducing inequality and growing an inclusive economy by 2030 (Republic of South Africa 2012). Instead, the country has in recent decades been experiencing an increase in both the participation of the female labor force and the Gini coefficient.

Bridging the gaps in literature

As a major contribution to the related literature, the present study investigates the determinants of income inequality in South Africa with a special focus on the effects of inflation on income inequality. The analysis looking into the effects of inflation on inequality, has, to the best of the author's knowledge, not been dealt by previous studies on South Africa. As an example, some of the previous studies have examined various causes of inequality in South Africa, and these include Bhorat, Westhuizen and Jacobs (2009); Francis and Webster (2019); Hassan and Meyer (2021); Kapingura (2017); Leibbrandt and Woolard (2001); Leibbrandt, Finn and Woolard (2012); Mdingi and Ho (2023); Shupp (2002); Tregenna and Tsela (2012); Triegaardt (2006); and Woolard (2002). However, the current study differs from these in its special focus on the effects of the inflation rate, which the study has included in the list of regressors.

The examination of the effects of inflation in the present study is backed by the reality of South Africa having gone through different monetary policy regimes. During the past four decades, South Africa, through the South African Reserve Bank (SARB), went through at least five monetary policy regimes during which different policy instruments aimed at maintaining price stability were adopted (Rossouw, 2007).

Initially, during the period from 1975 to 1994, when monetary expansion was experienced in South Africa, the economy had relatively high inflation rates (Table 1). However, around the same period, income inequality in the country was relatively low compared to the starting from 1995 to present. Ironically, a year after South Africa's democracy, which is the period starting from 1995 onwards, inflation in the country has generally been lower compared to the preceding era, yet income inequality has been much higher than during the pre-democracy era (Madito and Odhiambo, 2018; South African Reserve Bank, 1975, 1981, and 1990; Statistics South Africa, 2023). This puzzling observation about the trends in inequity and inflation in South Africa has sparked interest in the current study.

3. Methodology, data, and analytical techniques

In line with the aim of this study, an autoregressive distributed lag (ARDL) model is used to estimate the short-run and long-run coefficients. The data cover the period 1975 to 2017 with the variables of investigation, including a measure of income inequality, real income, government expenditure, financial development, inflation rate, and female labor force participation. The base year for the variables under investigation is 2017. The dependent variable, which is the Gini coefficient, is obtained from the Standardized World Income Inequality Database (SWIID), which has been compiled by Solt (2019). Variables other than the female labor force are obtained from the World Bank (2019). However, the missing value for the 1991 value for domestic credit to the private sector is replaced with a value computed from the South African Reserve Bank data. Additionally, the data for female labor force participation are from the International Labor Organization (2022).

Since South Africa went through a significant democratic transition during the period under investigation, this study develops a dummy variable ranging from 0 to 1, where 0 is assigned to the period before democracy (1975 – 1989), 0.5 to the transition period (1990 – 1993), and 1 to the post democracy period (1994 – 2017). Morgan and Kelly (2013) use a similar coding scheme to develop a democracy variable that classifies different democratic regimes for Latin America and the Caribbean. The EViews 13 software was used to perform all estimations and diagnostic tests in the present paper.

Following the description of the variables, the autoregressive distributed lag model (ARDL) model for the current study is specified as follows:

$$\begin{aligned}
\Delta \ln GINI_t = & \alpha_0 + \sum_{i=1}^p \beta_{1i} \Delta \ln GINI_{t-i} + \sum_{i=0}^p \beta_{2i} \Delta \ln GDP_{t-i} + \sum_{i=0}^p \beta_{3i} \Delta \ln GOVEXP_{t-i} \\
& + \sum_{i=0}^p \beta_{4i} \Delta \ln FINDEV_{t-i} + \sum_{i=0}^p \beta_{5i} \Delta \ln INFLATION_{t-i} \\
& + \sum_{i=0}^p \beta_{6i} \Delta \ln FLABOUR_{t-i} + \lambda_1 GINI_{t-1} + \lambda_2 GDP_{t-1} + \lambda_3 GOVEXP_{t-1} + \lambda_4 FINDEV_{t-1} \\
& + \lambda_5 INFLATION_{t-1} + \lambda_6 FLABOUR_{t-1} \\
& + \omega_t
\end{aligned} \tag{1}$$

where GINI is the Gini coefficient, GDP is the measure of real income proxied by real gross domestic product, GOVEXP is the final government consumption expenditure to GDP ratio, FINDEV is bank-based financial development proxied by domestic credit to the private sector, INFLATION is the measure of inflation rate proxied by the annual rate of change in the consumer prices index (CPI), and FLABOUR is the female labor force participation rate. The error term is represented by u_t , while p is the lag length for the model.

To determine the order of integration of the variables, unit root tests were carried out, the results of which indicate that none of the variables are integrated of an order higher than one (Table 2). These findings consequently enable the estimation of the long-run and short-run coefficients within the ARDL framework.

Table 2: Results of the Zivot-Andrews unit root test

Variable	Stationarity in log-levels		Stationarity in first difference	
	Intercept only	Trend and intercept	Intercept only	Trend and intercept
<i>Trend specification >></i>				
GINI	-3.471	-4.429	-4.603**	-6.186***
GDP	-2.521	-3.695	-4.526**	-4.862***
GOVEXP	-3.040	-3.753	-7.619***	-7.622***
FINDEV	-2.457	-2.650	-7.057***	-6.931***
INFLATION	-4.782**	-5.018**	-	-
FLABOUR	-2.979	-4.774*	-7.706***	-

Source: Compiled by the author. Note that *, **, and *** show the level of significance at 10%, 5% and 1% respectively.

As part of the analysis, cointegration tests were conducted to determine if there is a long-run relationship among the variables, the results of which are reported in Table 3. From the results, cointegration is confirmed since the value of the calculated F-Statistic (5.546) is greater than the upper bound critical value at 1 % level of statistical significance. These results, therefore, indicate that there is a long-run relationship among the variables.

Table 3: Results of the cointegration test

Test Statistic	Value	Significance	I(0)	I(1)
F-statistic	5.646	10%	-2.57	-4.23
k	6	5%	-2.86	-4.57
		2.5%	-3.13	-4.85
		1%	-3.43	-5.19

Source: Author's computations. Note: Critical values are obtained from Pesaran, Shin and Smith (2001), CII(iii), Case III, Unrestricted constant and no trend. k is the number of endogenous regressors.

4. Findings and policy implications

The results of the estimated ARDL model are presented in Table 4, from which these findings emerge. First, inflation is not statistically significant in the long run, whereas government expenditure, bank-based financial development and female labor participation are significant. Furthermore, the results indicate a significant short-run effect of all the variables on income inequality, though their impact varies in terms of size and direction.

Table 4: Results of the long-run and short-run estimations of the ARDL model

Panel A: Long-run form Dependent variable is $\ln GINI_t$		
Variable	Coefficient	Probability
$\ln GDP_t$	0.021 (0.832)	0.429
$\ln GOV_t$	0.243* (2.156)	0.063
$\ln FINDEV_t$	-0.288* (-2.114)	0.067
$INFLATION_t$	-0.004 (-1.634)	0.141
$\ln FLABOUR_t$	0.234** (2.446)	0.040
C	3.347 (5.998)	0.000
Panel B: Error-correction form Dependent variable is $\Delta \ln GINI_t$		
Variable	Coefficient	Probability
$\Delta \ln GINI_{t-1}$	0.455*** (6.327)	0.000
$\Delta \ln GINI_{t-2}$	0.645*** (8.676)	0.000
$\Delta \ln GDP_t$	0.052*** (8.471)	0.000
$\Delta \ln GDP_{t-1}$	0.039*** (5.711)	0.000
$\Delta \ln GDP_{t-2}$	0.038*** (6.058)	0.000
$\Delta \ln GDP_{t-3}$	0.021*** (3.696)	0.006
$\Delta \ln GOVEXP_t$	0.014*** (5.129)	0.000
$\Delta \ln GOVEXP_{t-1}$	0.017*** (7.662)	0.000

$\Delta \ln GOVEXP_{t-2}$	0.013*** (4.862)	0.001
$\Delta \ln GOVEXP_{t-3}$	-0.004 (-1.519)	0.162
$\Delta \ln FINDEV_t$	-0.013*** (-7.829)	0.000
$\Delta \ln FINDEV_{t-1}$	0.015*** (7.051)	0.000
$\Delta \ln FINDEV_{t-2}$	0.010*** (4.721)	0.002
$\Delta INFLATION_t$	6.46E-05 (1.147)	0.284
$\Delta INFLATION_{t-1}$	0.002*** (4.811)	0.001
$\Delta INFLATION_{t-2}$	6.79E-05 (1.208)	0.262
$\Delta \ln FLABOUR_t$	0.022*** (12.024)	0.000
$\Delta \ln FLABOUR_{t-1}$	-0.004*** (-4.039)	0.004
$\Delta \ln FLABOUR_{t-2}$	0.007*** (5.175)	0.000
$DEMOCRACY_t$	0.003*** (7.976)	0.000
ECT_{t-1}	-0.119*** (-12.878)	0.000
R-squared	0.9857	
Adjusted R-squared	0.9654	
S.E. of regression	0.0004	

Source: Author's computations. T-values are in parentheses. *, **, and *** show the level of significance at 10%, 5% and 1% respectively.

Starting with inflation, the short-run results confirm its significant positive relationship with income inequality during the reviewed period. These results suggest that in the short run, positive shocks to inflation can increase income inequality in South Africa. The explanation for these findings is as follows: income inequality tends to decrease in cases of low to moderate inflation, but, conversely, tends to increase for moderate to high levels of inflation. This pattern has been confirmed by Sintos (2023). It can, therefore, be argued that, in the case of South Africa, inflation above 6 percent (in the previous regime) or above the 3 percent target of the current regime, may be detrimental as it can increase income inequality in the country (Ndou, 2024).

Consequently, the findings regarding the relationship between income inequality and the inflation rate have important implications. Though negligible in magnitude, the impact of inflation on income inequality could require policymakers in South Africa to take some cognizance of the status of the existing imbalance in terms of the income gap between the rich and the poor, at least in the short run. Accordingly, maintaining the inflation rate by the South African Reserve Bank (SARB) would be of lesser value on socioeconomic grounds if it is associated with the worsening of income inequality in the country, even if it were to be in the short run.

The findings of the present paper, therefore, indicate that it could be ideal for South African policymakers to identify the levels of inflation rate at which income inequality is likely to be aggravated by shocks to inflation. On a similar argument, Siami-Namini (2019), Berisha et. al. (2020), and Uspri et al. (2023) demonstrate that managing inflation can have implications for income inequality, thus, monetary policy can play a crucial role in lowering income distribution gaps. Consequently, for South Africa, the loosening (tightening) of economic conditions due to decreasing (rising) consumer prices can reduce (exacerbate) the level of income inequality.

Apart from inflation, the short-run results also reveal that real GDP has a positive and statistically significant coefficient. This implies that in the short run, an increase in real GDP in South Africa is associated with increases in income inequality levels, which is consistent with Anyanwu (2016) and Asogwa et al. (2022), who confirm that an

increase in GDP would increase income inequality in selected African countries, including South Africa. The findings of the present study further concur with earlier studies, including Campano and Salvatore (1988); Milanović (1994); and Galor and Tsiddon (1996), who, in line with the Kuznets (1955) hypothesis, argue that in the early stages of economic development, output growth can be accompanied by higher income inequality.

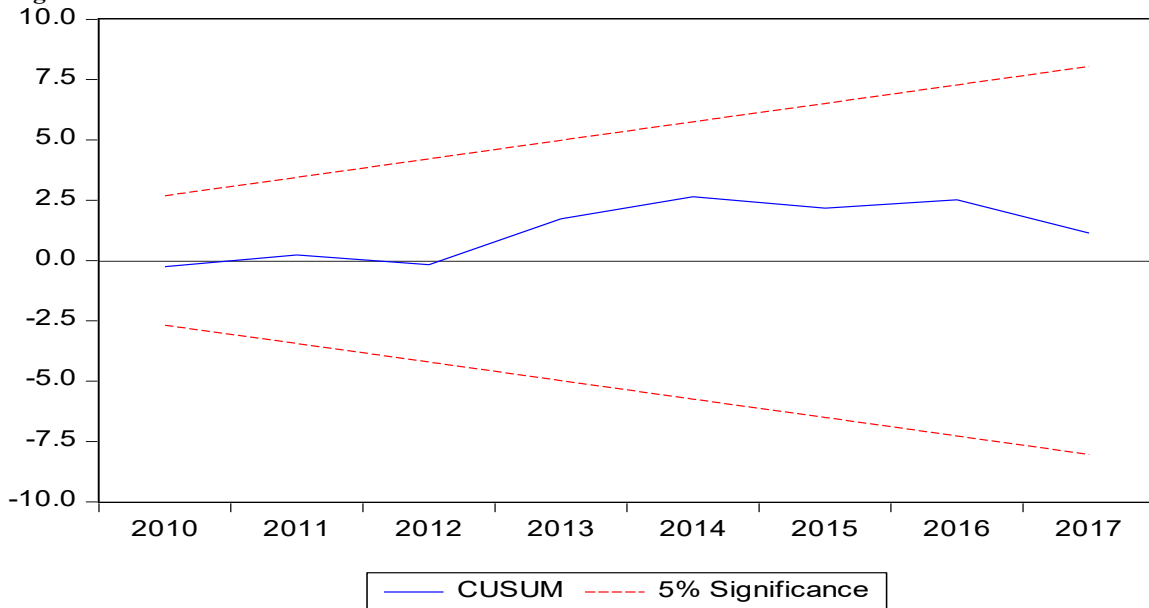
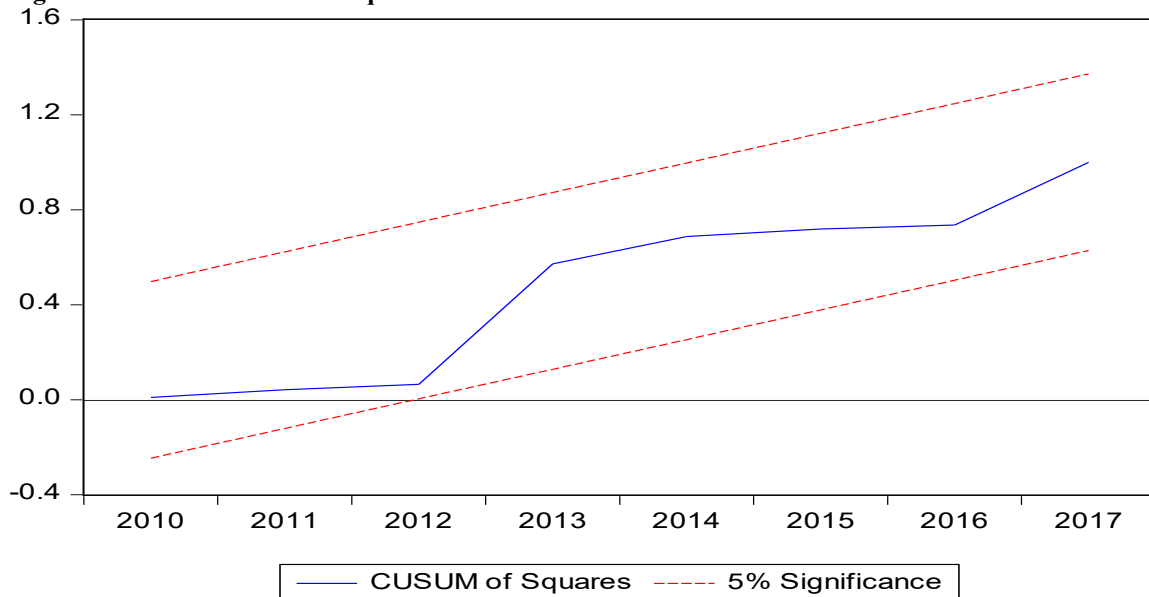
Similarly, Bahmani-Oskooee et al. (2008) find that in some developing countries, output growth tends to have an increasing effect on income inequality in the short run. For South Africa, the direct implication of these results is that in the short run, output growth in the country is associated with a widening income gap, which could be attributed to the wage differential among wage earners. After all, Leibbrandt and Woolard (2001) and Hundenborn, Leibbrandt and Woolard (2018) confirm that wage income is the primary source of income inequality in South Africa.

In addition, it can be further inferred from Table 4 that a positive sign on the coefficient of government expenditure variable (GOVEXP) suggests that South Africa's income inequality has been rising even though increasing amounts of government expenditure were allocated in successive years during the period under investigation. As argued by Triegaard (2006) and Fortuin et al. (2022), the pro-poor policies adopted by the South African government post-1994 have not been successful in achieving their intended goals, including wealth redistribution. Thus, like previous studies, the current study argues that the adopted policies, most of which are directly linked to increased government expenditure, have instead been accompanied by the worsening state of income inequality in South Africa.

The short-run results further show that financial development has a reducing effect on income inequality in South Africa since the coefficient of FINDEV is negative and statistically significant. Previous studies, including Kapingura (2017) and Hassan and Meyer (2021), also find similar results, suggesting that increased bank-based financial development, proxied by bank credit to the private sector, reduces income inequality in Africa. Based on these findings, the implication is that in the short term, the more private-sector credit is offered by financial institutions, the higher the creation of opportunities that can reduce poverty.

Over and above these findings, the two other variables that stand out from the short-run results are democracy and female labor. Regarding democracy, the present findings show that the coefficient of DEMOCRACY is positive and statistically significant, which is an indication that the attainment of democracy has not succeeded in reducing income inequality in South Africa. It can be recalled that South Africa has gone through a major democratic transition that resulted in the first democratically elected government in 1994. However, although South Africa attained democracy three decades ago, the level of inequality in the country is increasing over time. The findings of the present study indicate that attainment of democracy does not necessarily lead to lower income inequality, which is in line with Nikoloski (2015). On this issue, Bhorat et al. (2001) and Gibson (2019) argue that income inequality has rather remained high during the period after democracy attainment in South Africa despite the measures implemented by the government.

Apart from the factors discussed above, the gender-driven effect on income inequality has also been highlighted by earlier studies as one of the factors causing income inequality in South Africa, for example, see, Mosomi (2019), Francis and Webster (2019). From the current study, the results indicate that female labor force participation (FLABOUR) in the current period has a positive and statistically significant coefficient, suggesting that an increase in female labor force participation in the current period is associated with an increase in income inequality in South Africa. These findings can be linked to South Africa's female labor force being predominantly over-represented in the lowest paying jobs and under-represented in highest paying jobs (Mosomi, 2019). Last, the results for model stability suggest that the estimated model is stable, as shown in Figures 2 and 3. The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squared residuals (CUSUMQ) plots do not cross the 5% boundaries.

Fig. 2: Plot of the CUSUM**Fig. 3: Plot of the CUSUM of Squares**

5. Conclusion

This paper investigates the determinants of income inequality in South Africa, which is characterized by high levels of income inequality. Various factors can be attributed to rising inequality, yet the central focus of the present paper is to examine the determinants of income inequality in South Africa during the pre-Covid 19 pandemic era, with a special emphasis on whether inflation has a significant relationship with income inequality in South Africa. Using the autoregressive distributed lag (ARDL) model, this study finds that inflation has a significant positive relationship with income inequality, but only in the short run. Specifically, the findings from the empirical analysis of this paper indicate that income inequality can be exacerbated by positive shocks to inflation. With these findings, it becomes crucial for policymakers to be fully aware of the levels of inflation at which income inequality is likely to worsen. Such a policy move could require some forecast levels of inflation at which income inequality is aggravated by different shocks to the

inflation rate. This is an area in which future studies can investigate, particularly focusing on recent data after the Covid-19 era and the recent war in the Middle East. Further findings concerning other variables reveal that income inequality tends to worsen with increases in government expenditure and female labor force participation. These findings suggest that, paradoxically, successive increases in government expenditure have been accompanied by higher income inequality levels. Furthermore, there is an indication that rising female labor force participation in South Africa has only been accompanied by increased disparities in income, which can be linked to females working in typically low-paying occupations relative to high-paying occupations. Contrary to the triggering effects of government expenditure and female labor force participation, the findings associated with financial sector development show that bank credit to the private sector has a reducing effect on income inequality in South Africa. Based on these findings, it is recommended that efforts to increase the availability and accessibility of credit to the private sector could be promoted by policymakers in South Africa while ensuring that credit extension does not trigger inflation as it did during the period before 1990. In this view, strategic interventions from various stakeholders, including the government, the banking sector, local communities, and private entities, could introduce finance for development in a manner that would mitigate the gaps arising from unequal opportunities in South Africa.

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