

The Nexus between Democracy and Income Inequality: Empirical Evidence from Some Selected African Countries

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Abstract

In this paper, the study showed the relationship between democracy and income inequality, by first reviewing some theoretical and empirical issues that explained the complex dynamics between democracy and income inequality. While democracy is hypothesized to increase redistribution and to reduce inequality, and why this expectation may fail to be realized when democracy is captured by the richer segments of the population thus, exacerbating poverty and income inequality. Empirical evidence from this study is based on panel cointegration, causality, and OLS (a cointegrating regression model) (FMOLS). The result suggests the existence of cointegration between democracy and income inequality. The result also suggests a bidirectional causality running from democracy to income inequality and from income inequality to democracy. The FMOLS result shows that democracy is positively and significantly related to income inequality. The insights from this study are informative to policymakers in these African countries to strengthen their institution and reduce leakages, corruption, and elite control of power with little dividends of democracy to the people. This will go a long way to strengthen citizen support for a democratic regime.

Keywords: Democracy; Income inequality; Panel causality; Cointegration

Introduction

There is a complex relationship between democracy and income inequality, and the exact nature of this relationship can vary depending on a number of factors. On one hand, democracy can help to reduce income inequality by providing opportunities for citizens to vote and participate in the political process. In a democratic system, citizens have the power to hold their leaders accountable for policies that may exacerbate income inequality and can push for policies that promote greater economic equality, such as progressive taxation, social welfare programs, and labor protections. On the other hand, some argue that democracy can actually contribute to income inequality by allowing wealthy individuals and corporations to exert disproportionate influence over the political process through campaign donations and lobbying efforts. In some cases, this can lead to policies that benefit the interests of the rich at the expense of the poor, such as tax cuts for the wealthy, deregulation of industries that exploit workers or harm the environment, and cuts to social welfare programs.

In practice, the relationship between democracy and income inequality is complex and multifaceted and can vary depending on a number of factors, such as the strength of civil society, the quality of institutions, and the level of economic development. Nevertheless, it is generally recognized that strong democratic institutions and robust civic engagement can help to reduce income inequality and promote greater economic opportunity for all citizens. Inequality in income has been increasing substantially during the last decades and is one of the greatest challenges facing advanced democracies today (Stiglitz 2015).

The debate on how institutions and types of political regimes influence the levels of inequality constitutes the center of discussion among researchers in the last few decades. The debate about the nexus between democracy and inequality is triggered by the resurgence of populist authoritarian regimes characterized by redistribution that favors the poor and the vulnerable challenging the existing hypothesis that democracies are associated with more egalitarian income distribution Nikoloski

(2015), as such call for a much better understanding of the political regime/income inequality link. In recent times, the notion that populist regimes improve the lives of the poor and vulnerable population is popularized by newspaper headlines. This development coincides with rising number of democracies in the world (Cole, 2011). The conventional wisdom among political scientists is the idea that stable and persistent democracy is derived from citizens' support for democratic principles (Linde and Ekman 2003). This support from citizens is critical for the survival of democracy and is mostly threatened by their assessment of the democratic regime (Lipset 1959). These concerns about citizens' perception of democracy have been haunting academics and policymakers for decades, as a result, recent research efforts suggest that excessive inequalities are inimical to the foundations of democratic political regimes (Acemoglu and Robinson 2006; Boix 2003) especially as the distributive consequences of markets become increasingly unequal.

According to Dabla-Norris (2015), 'the gap between the rich and poor has come to be the defining challenge of our time as it has reached a point higher than ever'. This has been the situation despite significant economic progress recorded in the last few decades, and this unequal income pattern mainly benefits the top ten percent of the population, and largely the top one percent in the income ladder (Inglehart and Norris 2016). The increasing disparity in wealth inequality between advanced democracies like North America and Western Europe and other developing countries in the periphery raised two important and closely related questions. What is the effect of wealth inequality on the emergence and sustainability of democracy? What is the impact of democratic government on wealth inequality? An inquiry into the philosophical trust of these questions was that wealth inequality is bad for democracy, and yet democracies are also likely to implement policies that reduce wealth inequality. Political theorists have often emphasized the fact that democracy is in trouble when its population is not broadly uniform in income and wealth because unequal economic resources can easily translate into a surplus of political resources in the hands of the few. The motivation behind

these research questions is rooted in the rising levels of income inequality and the threat it poses to the democratic regime. As such, we answer these two research questions using panel causality of some selected African countries. To achieve the objective, the paper is structured into five sections. Following the introduction is section two, which is concerned with the empirical review of the literature. Section three looks at the methodology. In section four, we present the empirical result and section five concludes the paper.

Empirical Literature

In the political economy literature, democratic institutions have been hypothesized as a major source of responsiveness and accountability, because it provides electoral incentives to redistribute income. In a democratic setting, political officeholders need extensive support to achieve and sustain power and are, for that reason, more likely to move beyond their narrow set of personal interests by appealing to a wider public through public policies (Meltzer and Richard, 1981). When Compared to authoritarian regimes, widespread enfranchisement inherent in democracies might likely result in higher public goods provision that may help the poor benefit from economic growth through investments in human capital (Baum and Lake, 2003; Lindert, 2004; Morgan and Kelly, 2013). These policies are expected to produce more equal income distribution over time.

Earlier studies on cross-national income inequality have drawn attention to the internal societal factors affecting income inequality (Bollen and Jackman 1985; Hewitt 1977; Lenski 1966; Muller 1988; Simpson 1990) or the external structural factors altering domestic distributional outcomes (Evans and Timberlake 1980; Galtung 1971; Wallerstein 1974). Based on cross-national evidence, two bodies of literature have consistently supported their theoretical claims. First is Kuznets (1955) and later research (Lecaillon et al. 1984; Nielsen 1994; Nielsen and Alderson 1995) have acknowledged the effects of demographic transition and labor force shift between sectors on income inequality in the process of general economic development. Similarly, the dependence approach demonstrated the adverse

impact of trade and investment patterns among countries on distributional income or the effects of a country's specialization within the global economy on distributional outcomes. For instance, Wen-Chin & Yu-Tzung (2019) examine the link between distributive unfairness, income inequality, and support for democracy using data collected from 28 democracies in East Asia and Latin America between 2013 and 2015, they found that inequality, measured in either a subjective or objective way, decreases with people's satisfaction with democracy. Also, they found that in East Asian countries, subjective measures of inequality, provide a better explanation of people's dissatisfaction with democracy than the Gini index, a commonly used objective measure of inequality.

However, political sociologists have not reached an agreement about the impact of political freedom and rights on distributional outcomes. Some have assumed a negative linear relationship between democracy and income inequality (Cutright 1967; Hewitt 1977; Muller 1985, 1988), or between legislative efforts via social policies and inequality (Jackman 1974), whereas others have argued that the level of political democracy has a curvilinear relationship with income inequality. For instance, Simpson (1990) suggested that the early introduction of political rights benefits only a handful of the wealthy, thereby increasing income inequality. Scholars have to a large extent demonstrated the negative political consequences that income inequality poses to democratic regimes. It has been shown to depress political engagement and interest among citizens (Solt 2008), increase political cynicism and mistrust (Dotti Sani and Magistro 2016; Rothstein and Uslaner 2005), intensify distributional conflicts (Boix 2003; Acemoglu and Robinson 2001), as well as intensify conflicts of winners and losers of globalization (Kriesi 2020), increase economic insecurity among citizens, and to play a crucial role in the rise of anti-democratic populist parties throughout Europe (Inglehart and Norris 2017; Stoetzer et al. 2021). Karl (2000) argues that: "Where income inequality is greatest, people are more willing to accept the authoritarian rule, less likely to be satisfied with the way democracy works, less trusting of their political

institutions, and more willing to violate human rights".

Democracy is the focus of research for Bollen and Jackman (1985), Lee (2005), Rodrik (1999), and Reuveny and Li (2003). The majority of these works claim that democracies tend to redistribute more towards the poor, consistent with the median voter model by Meltzer and Richard (1981), with decreasing inequality as a final result. As a counterbalance to this, there has been a strand of literature that has claimed that redistribution in different types of political regimes is primarily influenced by decisions of efficiency rather than politics (Sala-i-Martin, 1996; Benabou, 1996; Rodriguez, 2004). This group of authors tends to conclude that regime type cannot be considered one of the main determinants of inequality. On the other hand, the impact of institutions on inequality and vice versa has been the main focus of analysis for a significant group of researchers (Engerman and Sokoloff, 1997; Sokoloff and Engerman, 2000; Chong and Gradstein, 2007).

The interesting sequence based on some hypothesis is that economic and social inequality is not expected to translate into political inequality in a democracy, the question that interests' researchers is, what if it does? The problematique of this paper is a broad inquiry into the effects of inequality on the economic and social environment as well as into the effects of a worsened economic and social context on the political environment. While theorizing leads to a positive correlation between inequality and the deterioration of democracy, the empirical results show that the validation of the transmission of socio-economic inequality into political inequality is still scanty and the results are mixed, and the main cause is due to the rudimentary state of the measurement of political influence, and to the difficulty of measuring democracy and its quality.

Econometric Methodology and Model

The panel cointegration method is often used to examine the long-run cointegrating relationship between variables. As such, this study adopts this method to investigate the cointegrating relationship between democracy and income inequality. The hypothesis can be presented in the form of two linear relationships:

$$INEQ = f(DEM) \dots\dots\dots 1$$

the The specification of the equation follows a baseline econometrics model expressed as:
 $In(Y)_{i,t} = \alpha_i + In(X)_{i,t}\beta + \epsilon_{i,t}, i = 1 - - - - N, t = 1 - - - - T \dots\dots\dots 2$

Where In(Y) in equation 2 is the logarithmic transformation of the dependent variable, that is, inequality (INEQ). α_i denote the country fixed effects, In(X) represent the independent variables which includes democracy index (DEM). β denotes the coefficient estimate, of the error term, i represents the cross-sectional units and t is the period.

Data Description

We assemble data from 33 African countries (Benin, Burkina Faso, Coted'Ivoire, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Nigeria, Ruanda, Senegal, Sierra Leone, Tanzania, Togo, Trinidad and Tobago, Tunisia, Uganda, Zimbabwe, Egypt, Gabon, Mauritius, Namibia, South Sudan, and South Africa). The study used yearly data from 2006 to 2021, comprising data for the democracy index which was sourced from our world in data (<http://ourworldindata.org>). Income inequality data was obtained from World Inequality Database (<http://wid.world.org>). The two variables used in this study take a logarithm form. To examine the relationship between income inequality and democracy, this study proposed three tests which includes panel unit root test, the panel cointegration test, panel causality test and the estimation of fully

modified ordinary least square (FMOLS).

Empirical Results

We performed the unit root test to ascertain if our variables of interest have unit roots or not. In the literature, several panel unit root tests have been proposed which include Levin et al. (2002), Breitung (2000), Im et al. (2003), Maddala and Wu (1999), Choi (2001), and Hadri (2000). Levin et al. (2002) utilized the generalized individual unit root test to panels with heterogeneous serially correlated errors, fixed effects, and individual deterministic trends. The method has a disadvantage in that it requires a homogeneous autoregressive root under the alternative hypothesis. Under the alternative hypothesis, Im et al. (2003) panel unit root test allows for a heterogeneous autoregressive coefficient. However, when individual-specific trends are included due to bias correction, both the Levin et al. (2002) and Im et al. (2003) tests suffer from a significant loss of power. Maddala and Wu (1999) and Choi (2001) proposed the Fisher type panel unit root test, which combines the probability values from individual unit root tests. The test does not require a balanced panel or identical lag lengths in each regression. As a result, in this study, we interpret the unit root result using the MW panel unit.

Table 1: Panel Unit Root Result

	LLC		Im, Pesaran & Shin		ADF-Fisher Chi - square	
	Level	1st Diff	Level	1st Diff	Level	1st Diff
INEQ	-5.61	-15.7	0.35	-6.78	69.85	-77.59
Prob	0.00	0.00	0.64	0.06	0.29	0.08
DEM	11..09	-17.12	-0.76	-27.66	82.11	-162.14
Prob	0.00	0.00	0.29	0.00	0.22	0.00

Source: Authors construct based on estimated data

Table 2 summarizes the results of Pedroni's panel cointegration test. The cointegration test indicate a significant cointegrating relationship between income inequality (INEQ) and democracy (DEM). The result show that the null hypothesis of no cointegration is strongly

rejected by five statistics with the exception of panel v-statistics and panel group rho-statistic at the 1%, 5%, and 10% significance level. Thus, we conclude that a long-run relationship exists between income inequality, democracy, and government expenditure.

Table 2. Pedroni Cointegration Test Result (INEQ and DEM)

With Trend and Intercept						
Within-dimension	Statistics	Prob	Between-dimension			
					Statistics	Prob
Panel v-Statistic	-15.03	1.00				
Panel rho-Statistic	-1.38	0.10	Group rho-Statistic		6.14	1.00
Panel PP-Statistic	-8.12	0.00	Group PP-Statistic	-	-8.03	0.05
Panel ADF-Statistic	-5.10	0.04	Group ADF-Statistic	-	-5.61	0.00

Note: The null hypothesis is that the variables are not cointegrated. Under the null tests, all variables are distributed normal (0, 1).

Source: Authors construct based on estimated data

Because the variables in the equation are cointegrated, we estimate the long-run coefficient using Chiang and Kao's panel fully modified OLS (FMOLS) (2000). The FMOLS technique, in addition to proving the existence of a cointegrated relationship and calculating individual samples and panel estimators, can correct for the deviation caused by correlation and endogeneity between variables inherent in traditional OLS estimation (Pedroni, 2000; Westerlund, 2007).

According to Pedroni (2000), the FMOLS technique is a non-parametric approach that has an advantage and can produce consistent results in a small sample. Here, the full sample coefficient of DEM in our model is 2.1971. As presented in Table 3, the result reveals that as the index of democracy increases by 1%, income inequality increases by 2.20%. This result is in line with Umukoro (2014) that shows that democratic governance has not adequately bridged the inequality gap in Nigeria. Also, our result is similar to Krieger and Meierrieks (2016), who further argued that the negative effect of inequality on economic freedom is due to the economic elite converting its economic power into de facto political power to defend its economic interests; these interests run counter to economic freedom, discouraging innovation and competition as well as protecting the elite's

rents.

In developing countries like our sampled dataset, democracy has not been able to yield the desired dividends to the low-income group or reduce income inequality due to several reasons which include limited participation, unequal access to information, and elite capture among others. For instance, in many low-income countries, the economic and political elites have disproportionate power and influence. This means that they can use their resources and connections to capture democratic institutions and shape policies that benefit themselves, rather than the broader population. Indeed, existing evidence from the literature suggests that small middle classes and high levels of inequality are associated with lower levels of institutional quality and less market-friendly economic policies (see Easterly, 2001; Easterly et al., 2006; Fogel, 2006; Chong and Gradstein, 2007; Loyaza et al., 2012). Overall, democracy can increase inequality in low-income countries by reinforcing the power of the elite and limiting the participation and representation of marginalized groups. To address this, it is important to strengthen democratic institutions, promote greater participation and inclusion, and address economic factors such as poverty and inequality.

Table 3 Long run estimate with FMOLS

Dependent Variable: Under 5 Mortality	Estimated Coefficient
	2.1971** [5.4712]

Note: ** indicates 5% level of significance, t statistics is given in bracket []. Abbreviations:

INEQ= Income inequality; DEM= Democracy index

Source: Authors construct based on estimated data

Panel Granger Causality

The existence of a long-run cointegration among our variables of interest necessitates the need to explore Granger causality. To define the

direction of causality among our variables, the equation to analyze the relationship between income inequality (INEQ) and democratic index (DEM) can be stated as:

$$\Delta \ln INEQ_{it} = \alpha + \sum_{j=1}^J \beta_j \Delta \ln INEQ_{it-j} + \sum_{j=1}^J \delta_j \Delta \ln DEM_{it-j} + \epsilon_{it} \dots\dots\dots 3$$

Where $i=1, \dots, N$ refers to country, $t=1, \dots, T$ refers to year and ϵ is the stochastic error term. To apply the Granger-causality test, all the variables must be stationary. In equation 3, $\Delta \ln DEM$ Granger-cause $\Delta \ln INEQ$ if the past values of $\Delta \ln DEM$ can predict the current values of $\Delta \ln INEQ$, even when the past values of $\Delta \ln INEQ$ have been included in the model. In

other words, $\Delta \ln DEM$ Granger-cause $\Delta \ln INEQ$ if the coefficient δ_j jointly differ statistically from zero. Causality in the opposite direction can be tested by swapping the two variables. In line with Dumitrescu-Hurlin (2012) method of Granger causality test, all coefficients can vary across countries but are invariant over time.

Table 4. Panel Granger Causality Test (Full Sample)

	$\Delta \ln DEM \rightarrow \Delta \ln INEQ$	$\Delta \ln INEQ \rightarrow \Delta \ln DEM$
Z	2.110**	1.326*
Statistics		
(p-values)	0.078	0.000

Notes: *, ** significant at 1% and 5% level
Source: Authors construct based on estimated data

Table 4 shows the results of the Granger causality test on the full sample generated from R Studio. We test for both directions of causality, first from $\Delta \ln DEM$ to $\Delta \ln INEQ$, then from $\Delta \ln INEQ$ to $\Delta \ln DEM$. In the first row, the result show that at the 10% level of significance, the null hypothesis that democracy $\Delta \ln DEM$ does not Granger cause income inequality $\Delta \ln INEQ$ can be rejected, indicating that causality runs from democracy to income inequality. Causality can run from democracy to income inequality in developing countries characterized by weak institution and corruption, unequal access to education and elite capture of the democratic process. Political elites in many developing countries may use their power to seize control of the democratic process and advance their own interests at the expense of the rest of the population. As a result, policies that benefit the wealthy and well-connected may be implemented, exacerbating inequality. This may have a knock-on effect as it may have knock-on effect that widens inequality. For instance, political instability may result from widening income gap, this will make it more difficult for businesses to invest, leading to lower levels of economic growth and increased inequality.

Similarly, the null hypothesis that $\Delta \ln INEQ$ does not Granger-cause $\Delta \ln DEM$ is rejected at the 1% significance level. This implies that income inequality Granger-cause democracy. Income inequality can have a number of negative impacts on democracy, these includes; unequal political influence, it decreases political participation; it is a threat to democratic stability. Allowing income inequality to persist and worsen over time can jeopardize the stability of democratic institutions. When large segments of the population believe the system is rigged against them, they may be more inclined to support authoritarian or populist leaders who promise to upend the status quo. Overall, income inequality has a significant impact on democracy's functioning, making it more difficult to ensure that all citizens have an equal say in the political process and that policies are made in the best interests of the entire population.

Conclusion

This article examines why democratization does not consistently reduce inequality despite theoretical expectations especially, for most African countries. We argue that the starting

point lies in the degree to which democratic dividends tickle down to those in the bottom of income ladder. As such, we revisit the relationship between democracy and income inequality. We first review some theoretical and empirical issues that explain the complex dynamics between democracy and income inequality. While democracy is hypothesized to increase redistribution and reduce inequality, and why this expectation may fail to be realized when democracy is captured by the richer segments of the population thus, exacerbating poverty and income inequality. This study examined the link between democracy and income inequality using data for 33 African countries. Empirical evidence from this study is based on panel cointegration, causality and fully modified OLS (FMOLS). The result suggests the existence of cointegration between democracy and income inequality.

The result also suggests a bidirectional causality running from democracy to income inequality and from income inequality to democracy. In other words, the causality running from democracy to income inequality implies that political elites in many developing countries may use their power to seize control of the democratic process and advance their own interests at the expense of the rest of the population. As a result, policies that benefit the wealthy and well-connected may be implemented, exacerbating inequality. Similarly, allowing income inequality to persist and worsen over time can jeopardize the stability of democratic institutions. When large segments of the population believe the system is rigged against them, they may be more inclined to support authoritarian or populist leaders who promise to upend the status quo. Overall, income inequality has a significant impact on democracy's functioning, making it more difficult to ensure that all citizens have an equal say in the political process and that policies are made in the best interests of the entire population. The FMOLS result shows that democracy is positively and significantly related to income inequality. The insights from this study are informative to policy makers among these African countries to strengthen their institution, reduce leakages, corruption and elite capture of the dividends of democracy. This will go a long way to strengthen citizen

support for democratic regime.

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