

Inequality and Economic Growth in Sub-Saharan Africa

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ABSTRACT

It has been argued in the literature that inequality and economic growth might be related through various channels. This study investigates the relationship between Gini coefficient and the rate of growth of the Gross Domestic Product (GDP). The analysis is based on a panel of 29 Sub-Saharan Africa countries for the period 1980-2011. Evidence from Random effects model estimates suggests that there is no significant relationship between inequality and economic growth in Sub-Saharan Africa.

Key words: Inequality, economic growth, Sub-Saharan Africa.

INTRODUCTION

Is there a trade-off between efficiency and equity? Is it possible to mitigate inequality without harming economic growth? Economists have been trying to find evidence to answer these questions and the like; development policymakers are interested not only economic growth per se, but also in how the gain from that growth is distributed. As pointed out by García-Peñalosa (2008), understanding economic growth and inequality is both important and controversial; it is important because policy makers need to understand the way in which the increase in output will be shared among heterogeneous agents within an economy, and the constraints that this sharing may put on future growth. Its controversy derives from the fact that it has been difficult to reconcile different theories, especially since the empirical evidence has been largely inconclusive.

Contrasting experiences in the post-World War II era between Latin America that had high initial income inequality and low long-run economic growth, and East Asia that had low initial inequality and high long-run growth, has fired up a popularity in documenting the effect that inequality has on economic growth through different channels. (Milanovic, 2003)

There are five theoretical channels through which inequality can affect growth: credit –market imperfections, political economy, saving rates, socio-political instability, differential fertility and the accumulation of human capital.

In the presence of imperfect credit markets, there are two offsetting effects of inequality on economic growth; a negative effect in the absence of increasing returns to investment, and a positive effect if increasing returns to investment prevail. In the absence of increasing returns to investment, Barro (2000) argues that limited ability to borrow implies that the rates of return on investment opportunities are not necessarily equated at the margin. According to Bourguignon (2004), the key point is that poor people cannot borrow as they lack collateral, face imperfect credit markets, or their poverty prevents them from seizing investment opportunities that would benefit both themselves and society. They cannot offer their children a good education, cannot obtain loans to start a business, or cannot afford insurance; however profitable their enterprises may be. Consequently, Countries with a high poverty headcount or an unequal distribution of wealth underutilize their productive and growth potential to a greater degree than countries with fewer poor people or with a more equitable distribution.

Through the political economy channel, inequality has a negative effect on growth. This channel associates voting and redistribution; the higher the inequality, the more voters will ask for redistribution. In the model developed by Meltzer and Scott (1981), and later described in Rodriguez (2000), under democratic and universal suffrage system, voters weigh the benefits from redistribution (more transfers) from the costs (higher taxes). For voters with less than average income, the former effect outweighs the latter. As income distributions tend to be positively skewed (mean greater than the median), the median voter will have less than average income. The incentives to vote for redistribution, however, will depend on how poor the median voter is. The lower the income of the median voter (higher inequality) the more incentives he has to support higher redistributive transfers. As taxes affect investment and labor supply decisions, if these redistributive transfers are financed with capital taxes they can lead to lower levels of capital accumulation and growth. According to the median voter theory, inequality is bad for growth because it leads to high levels of redistribution; and as

redistribution is financed by taxes, which presumably distort economic activity, the result is a negative effect on economic growth.

On the other hand, the saving-rate channel predicts that inequality is beneficial for growth. As the marginal propensity to save increases with income, inequality channels resources towards individuals whose marginal propensity to save is higher, therefore increasing the aggregate saving and capital accumulation, and eventually accelerating economic growth.

Through the socio-political channel, inequality reduces economic growth. High inequality leads to socio-political instability by breeding relative deprivation and discontent. Due to rent-seeking activities, social tensions and political instability. Uncertainty reigns and poses a threat to property rights, therefore, discouraging investment and eventually slowing economic growth.

Furthermore, inequality slows economic growth through fertility and human capital channel. As pointed out by Thorbecke and Charumilind (2000), more equal income distribution implies a greater income share accruing to the middle class that is likely to reduce fertility and population growth. David de la Croix & Doepke (2002) argue that Future human capital is a weighted average of the education of today's children from families in different income groups.

EMPIRICAL LITERATURE

There is a plethora of studies that have assessed the effect of inequality on economic growth. The findings are in three categories: a negative effect, a positive effect and no effect at all. Barro (2000) analyzes the effect of inequality on economic growth in a panel of 146 countries; he finds a negative effect in poor countries (Per capita GDP below \$2070) , and positive for countries above that threshold. Similarly, Alesina and Perotti (1994) find a significant and robust negative effect of socio-political instability on investment in a panel of countries for the sub-period 1970-85. They confirm the causality link from income distribution to socio-political instability and from the latter to investment, and eventually economic growth.

On the other hand, Forbes (2002) using an improved data set on income inequality and controlling for time-invariant country-specific effects, challenges many studies that have found a negative effect of inequality on economic growth. He argues that in the short and medium term, an increase in a country's level of income inequality has a significant positive relationship with subsequent economic growth.

Alesina and Rodrik (1996) in a sample of 71 countries find a negative effect of inequality on political stability. In addition, they find a negative effect of political instability on investment. Their results are in line with what many scholars pointed out when comparing East Asian countries to Latin America. The former owe their miraculous economic growth to the fact that, inter alia, they experienced relatively more political stability and much less inequality compared to that of Latin American countries, even though they once both had similar levels of per capita income. Alesina and Rodrik (1994) found evidence of the effect of inequality on economic growth, which is in line with the prediction of political economy channel. Conversely, Perotti (1996)'s analysis of the political economy channel refutes the earlier hypothesis of the political economy approach, demonstrating that in contrast to what has been a common prediction, inequality is negatively associated with taxation, whereas lower levels of taxation, are associated with lower levels of economic growth.

Partridge (1997), in a panel of U.S states, finds that equality as measured by the share of median income in GDP is positively related to growth. However, the Gini coefficient is also positively related to growth implying a positive relationship between the share of the median income, inequality and economic growth.

The effect of inequality on economic growth through the saving rate channel is empirically examined by Odedokun and Round (2001) by analyzing data of 35 African countries. Income distribution variables are included as regressors in the equations for private domestic saving-GDP ratio and private investment-GDP ratio. The coefficients of the income distribution variables are statistically insignificant in the saving and investment equations. Similarly, Kraay (2002), Easterly (1999), Banerjee and Duflo (2003), and Deininger and Squire (1996) find no correlation between gini and GDP growth rate.

Overall, there is no consensus on the relationship between inequality and economic growth. Some argue that inequality is growth enhancing; others claim that growth may be hampered by inequality; while there is another category that found no relationship at all. This study is but a contribution to the existing literature by investigating this effect in a group that is rather homogenous.

DATA AND METHODS

Data

Data used in this study are from World Bank's World Development Indicators (WDI) and Worldwide Governance Indicators (WGI). The sample consists of 29 Sub-Saharan African Countries for a period of thirty-two years starting from 1980. Countries with at least two observations of Gini coefficient were considered, totaling 115 observations.

The variables of interest are grouped into four dimensions. The first dimension consists of inequality, measured by the Gini coefficient. The second dimension consists economic growth, measured by GDP growth rate. The

third dimension consists of fertility (Total Fertility rate), human capital (average years of secondary and tertiary schooling), political stability (the likelihood of politically-motivated violence in a country). The latter dimension serves to investigate the channels through which inequality affects economic growth.

Econometric Model

When dealing with panel regression, the choice is made between Random Effects (RE) model and Fixed Effects model (FE). The difference between the two models is a function of the assumptions made about the error term. The RE model assumes that the error term is randomly related to the independent variables or to country-specific effects, while the FE model assumes that the relationship between the error term and the independent variables is not random. The Hausman test is conducted and reveals that REM model is appropriate. Moreover, estimating the FE model would be inappropriate because the sample contains few country observations. As pointed out by Clark&Linzer (2013), in presence of insufficient country observations, the estimate produced by the FE model can be quite different from the true estimate, which implies a higher variance and eventually a lack of robustness. As a result, the model is specified as:

$$\text{Growth}_{it} = \beta \text{Ineq}_{it} + \gamma_i X_{it} + \alpha + \mu_i + \varepsilon_{it}$$

Where growth is measured by GDP growth rate for country i in year t ; Ineq_{it} is gini coefficient in country i in year t ; μ_i is the between-entity error; ε_{it} is the within-entity error; α is the constant; X_{it} is a vector of control variables.

ANALYSIS AND INTERPRETATION OF RESULTS

Figure 1 below depicts the partial relationship between the rate of economic growth and the Gini coefficient in Sub-Saharan Africa. As it can be observed, there is no significant relationship between economic growth and inequality, and the depiction does not suggest any nonlinearity. Similar results, but in a different sample, were found by Dollar and Kraay (2002), Easterly (1999), Banerjee and Duflo (2003), Persson and Guido (1994) and Deininger and Squire (1996), among others.

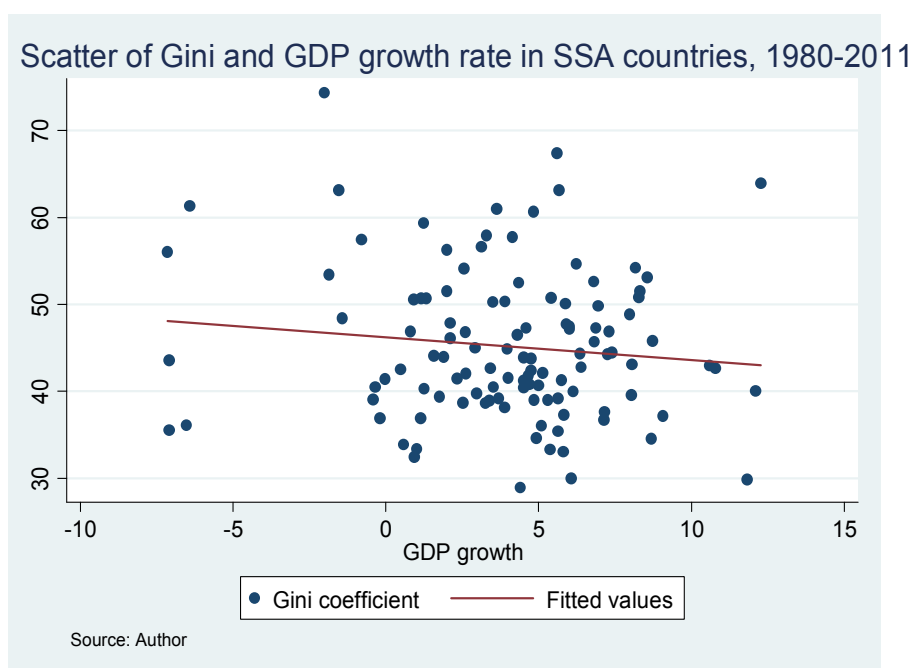


Figure 1 Gini and the Rate of Economic Growth

Table 1 below reports results of RE models. In the first column, the growth rate of GDP is regressed on Gini coefficient. In the second column other independent variables are added to control for different channels through which inequality may affect economic growth. GDP is measured in constant prices. Education is measured by the average years of schooling in secondary and university every year in each country. Fertility is measured by the Total Fertility Rate (TFR). An interaction between fertility and secondary education attainment is also added. Other control variables are the national saving as a percentage of GDP, and Political Stability that measures the likelihood of politically-motivated violence in a country.

Table 1 Panel Regressions for Economic growth and Inequality

VARIABLES	Growth rate	Growth Rate
Gini	-0.0342	0.0282
Secondary education		-8.246*
Tertiary education		13.94
Fertility		-2.241
Fertility x Secondary education		1.190
Saving %GDP		0.146*
Political stability		1.492
Constant	5.461**	25.89*
Observations	114	82
R-squared	0.13	0.32

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Regression results are in line with what is depicted in Figure 1; there is no significant relationship between inequality and economic growth. Moreover, these findings do not provide evidence of the transmission channels in SSA, except for the saving channel which reveals that the higher the saving rate as percentage of GDP, the higher the economic growth.

CONCLUSION

The main objective of this study was to investigate the relationship between inequality and economic growth in SSA. A sample of twenty-nine countries were included in the analysis out of forty-eight countries that are situated in Sub-Saharan Africa region. Both the descriptive and the regression analyses revealed that economic growth and inequality are not associated, at least in a significant way.

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