On the impact of financial development on income inequality in Africa: the importance of interest and economic growth rates gap

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Key messages:

- The impact of financial development on income inequality in Africa is examined when the relationship is mediated by the gap between interest and economic growth rates.
- The threshold levels of the gap are estimated to range between 3.9% and 6.6%. Financial development significantly widens income inequality when the difference between countries’ interest and economic growth rates exceeds these thresholds.
- Income inequality-widening effect is lower when the gap between interest and growth rates is lower and below the thresholds.
- As long as countries’ levels of interest rate far outstrip their growth rate, policies that foster financial development may not reduce income inequality.
- Relaxing the collateral requirements for the poor, reduction in interest rates and improvement in economic growth are critical for financial development to dampen income inequality in Africa.

Introduction

Indeed, calls to reduce poverty and income inequality have long existed and well documented. While the Sustainable Development Goal (SDG) 1 aims at eradicating extreme poverty for all people everywhere, the SDG 10 targets at reducing inequality within and across countries by 2030. Among the set policies to reducing income inequality, countries are urged to develop their financial sectors. This is because improved financial sectors deliver services to the poor which enhances their productivity thus reducing inequality. Furthermore, financial development dampens income inequality and poverty through its effect on overall economic growth.

However, on account of the financial market rigidities and asymmetric information, the poor may not be able to access financial sector products due to their inability to meet collateral requirements. More tellingly, due to high interest rates and overall transaction costs related to participation in the financial markets, the poor and socially excluded are more likely to be credit rationed leading to imperfect allocation of capital. Consequently, income inequality may rise with the level of financial sector development.

This study contributes to the existing research efforts on the impact of financial development on income inequality by considering the significance of the spread between interest and growth rates of countries in Africa. In particular, it investigates whether the impact of financial development on income inequality is conditioned on the relative speed of growth in interest and growth rates of countries. This research concentrates on Africa because of the continent’s high income inequality, nascent financial sectors, relatively higher interest rates and sluggish growth. The main aim of the study is to examine whether the interplay of the interest and growth rates mediate the how financial development influences income inequality in the continent.

For most part, the difference between interest and growth rates (henceforth the gap) is crucial in the fight against income inequality. While access to financial resources and participation in the
financial sector partly hinge on the growth rate of an economy, the higher interest rates do not only inhibit access to these financial resources but also dampen borrowers’ ability to repay borrowed funds. Indeed, the gap also signals if an agent is prosperous to generate enough income to service the obligations to the financial sector. Thus, whether financial deepening decreases or increases income inequality may depend on the relative speed of growth in interest rate and that of the economy. This study shows that, the precise impact of financial development on income inequality is conditioned on the threshold value of the gap where financial development influences income inequality depending on whether country’s gap is below or above the estimated threshold. In this case, how countries’ interest rates outstrip economic growth rates mediate the impact of financial development on income inequality.

In doing this, the research contributes significantly to the policy making process. First, it provides policy makers with the precise threshold values of the gap necessary to support income inequality reduction using the financial sector as the main conduit. Second, it unearths how the different indicators of financial sector influence the different income inequality measures when countries are either below or above the threshold values.

**Financial development and inequality relationship: The approach and key findings**

The study relies on annual data for 37 African countries for the period spanning 2000–2014. It measures financial development using three indicators based on IMF multidimensional index of the financial sector. First is the financial depth which focuses on the standard banking sector depth measure (bank credit to the private sector), assets of the mutual and pension fund industries as well as size of life and non–life insurance premiums. The second measure is the financial access which considers the number of bank branches, automated teller machines (ATMs) per 100,000 adults, number of bank accounts per 1,000 adults and usage of mobile money transactions. The final indicator is the financial development index which is a combination of depth, access and efficiency of both financial institutions and markets. All these financial sector development indicators are scaled to range between 0 (lower financial deepening) and 1 (higher financial deepening).

Similarly, three different measures of income inequality are used which are gleaned from the Global Consumption and Income Project Database (GCIP) of the United Nations. First is the Gini coefficient which is based on households’ income before taxes. This measure the standardized incomes across countries before redistribution through the different tax system. Second is the Palma ratio which focuses on changes in income at the bottom part of the distribution. It is not uncommon to consider societies/countries with a Palma ratio of at most 1 to be relatively equal, implying that the top 10% does not receive a larger share of national income relative to the bottom 40%. The final inequality proxy is the Atkinson index which measures inequality by determining which end of the distribution contributed most to the observed inequality. The gap between interest and economic growth rate is introduced as the main variable mediating how the various indicators of financial development affects inequality.

To the extent that this study aims to examine potential threshold effects of financial development on income inequality conditioned on the gap between interest and growth rates, the first step involve testing for whether the gap is qualified to be a threshold variable mediating the link and at what threshold levels. Findings of the study reveal the presence of thresholds where the threshold values of the gap at the different levels of financial development–inequality links are presented. In other words, the gap mediates the impact of financial development on income inequality. The implication is that, there is a threshold value of the difference between interest and growth rates where the impact of financial development on income inequality changes.
Figure 1: Threshold values

Figure 1 shows the various threshold values that change how financial development affects income inequality in Africa. Three important findings can be documented. First, the precise impact of financial depth on income inequality depends on the threshold value of the gap which is identified as 4%. Second, the impact of financial access on income inequality is also conditioned on the threshold value of about 6.6%. Third, the effect of the financial development index on income inequality is contingent on the threshold value of 6.4%. These threshold values are critical in determining how financial development influences income inequality. More importantly, these threshold values split the sample into countries that are below the threshold which is called regime 1 and those countries with the gap above the threshold which is also called regime 2.

Having established evidence of the thresholds that bifurcate the link between financial development and income inequality, the impact of financial development on income inequality is estimated when countries’ level of the gap is below or above the estimated thresholds. The results are presented in Figures 2 to 4.

Figure 2: Financial depth and income inequality
The study finds that, irrespective of the indicator of income inequality, the current state of financial development in Africa does not dampen inequality based on the sample evidence. To the extent that the financial systems are narrow and illiquid, higher financial development provides a disproportionately larger share of access to finance to high-income earners thus exacerbating income inequality. However, it is observed that, the size of the inequality–widening effect is conditioned on whether a country is operating in regime 1 or 2. For instance, using the Gini coefficient, as shown in Figure 2, the study reveals that, in regime 1, a 1% increase in financial depth increases income inequality by 0.0243% albeit insignificantly. However, the inequality–increasing effect of financial depth increases to 0.1811% when the gap is above the threshold as shown in regime 2.

Thus, while higher financial depth heightens income inequality, the inequality–widening effect is benign when the interest and growth rate differential is lower. Interestingly, once the threshold of the interest and growth rate differential is exceeded, higher financial depth effect on income inequality does not only gains significance but the magnitude of effect increases.

With regard to the Palma ratio as a measure of income inequality, similar evidence holds although the inequality–widening effect of financial depth is exceedingly higher. Specifically, while the coefficient of financial depth is positively related to income inequality, the effect is insignificant in regime 1 suggesting that at lower levels of the gap, financial depth does not significantly influence income inequality. However, in regime 2 which shows higher differential between
interest and growth rates, improved financial depth significantly exacerbates income inequality. Interestingly, when proxied by the Atkinson index, the coefficient of financial depth in regime 1 is negative suggesting that improved financial depth lowers income inequality albeit insignificantly. In regime 2 where the gap for countries are above the threshold, the coefficient is positive and significant. This finding is consistent with the earlier evidence that, the income inequality–widening effect is huge especially when the difference between the difference between interest and growth rates sufficiently exceeds the threshold. These results are not different from the impact of financial access on income inequality. Specifically, the evidence based on Figure 3 reveals that, financial access heightens income inequality when the gap is wide in a way that exceeds the threshold. This holds irrespective of the measure of income inequality.

Beyond the financial depth and access, the results based on the multidimensional measure of financial development index also lead to the same conclusion that, financial deepening does not support income inequality reduction in Africa when interest rates outstrip economic growth rates.

Indeed, the rising inequality as a result of higher financial development can be attributed to the nature of the relatively under–developed financial markets in Africa. To the extent that the financial system is largely bank–based, they tend to favour the rich relative to the poor especially in access to credit. Put differently, the higher interest (lending) rates coupled with restrictive collateral requirements in Africa do not allow the poor to fully participate in the financial sector. Thus, as the financial sectors improve, they tend to disproportionately benefit the rich. As shown in Figure 5, the study observes that, out of the 37 countries, 32 countries representing 91% are above this threshold hence operating in regime 2 where income inequality–increasing effect is higher.

**Figure 5: Threshold levels and country performance**
Countries such as Benin, Burkina Faso, Ethiopia, Mali and Guinea-Bissau, the gap between interest and economic growth rates is consistently below all the thresholds hence operating in regime 1. For these countries, income inequality-widening effect of financial development is lower relative to countries like Gabon, Ghana, Central African Republic, Mauritania, Congo Republic, Malawi, Madagascar, among others.

Conclusion and policy implications
This study contributes to the financial development–income inequality link by assessing the role of the simultaneous growth in interest rate and that of growth rate in Africa. Specifically, it examines the threshold effects of financial development on income inequality by using the gap between interest and growth rates as the factor determining how countries’ levels of financial development affects income inequality. The findings suggest that, while the nascent Africa’s financial sector does not reduce income inequality, the income inequality–increasing effect is greater when the difference between the interest and growth rate is above the estimated thresholds. This evidence holds irrespective of the measure of financial development and income inequality.

A key implication of the study is that, financial sector development is far from being inclusive if interest rates of countries far outstrip growth rates. While increases in interest rate raises the cost of borrowing thus burdening the poor, higher growth rate is expected to result in higher per capita income. In the case of developing countries like those in Africa where poverty, income inequality and interest rates are high, the rising interest rates exclude the poor from accessing financial resources since they lack the collateral and connections relative to the rich who are well-positioned to access credit given their ability to provide collateral. However, higher growth rate which is inclusive enough may off-set the effect of the prohibitive interest rates since such growth rate spurs overall income per capita. Unfortunately, this is not the case since growth rates in Africa are lower relative to other emerging economies. Given this evidence, financial reforms that aim to deepen financial development in countries where interest rates outstrip growth rates may exacerbate income inequality. This is because those who are well-off relative to the poor are better equipped to access the new financial opportunities that the financial reforms push for.

A relatively under-developed financial system with low number of bank branches and accounts breed weak competition and therefore, high banks’ lending rates and low economic growth rates do not incentivize the poor to access credit for productive livelihood opportunities (with higher return) that can increase their income and lower income inequality. On the back of high gap between interest and growth rates, financial deepening widens income inequality and does not lift the poor out of social exclusion. What is observed is that, income inequality-widening effect is lower as the gap between interest and growth rates is below the estimated threshold levels, and vice versa. Thus, the simultaneous reduction of interest rates and improvement in economic growth are critical for financial development to dampen income inequality. As long as the difference between countries’ levels of lending rate and GDP growth rate is positive and exceedingly higher, policies that foster financial development may not lead to income inequality reduction. In addition to relaxing the collateral requirements for the poor by banks, it is also important for Central Banks in Africa to significantly reduce interest rates by lowering their policy rates. This is because the reduction of borrowing costs and allowing the poor to borrow against their available assets are expected to spur their access to financial resources on the back of policies that foster financial development.