Growth and Poverty Dynamics in Nigeria: Evidence from Panel Survey

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Abstract

We examined the relationship between household-level poverty dynamics and patterns of growth using a panel dataset comprising two waves. Analysis reveals that households that cultivated their own land relatively live more in the urban areas. Since households that cultivated their lands and reside in urban areas are associated with reduced likelihood of being chronically poor, the group pattern of growth will be for households to migrate to urban areas to partake in the opportunities created by the Agricultural transformation programmes. In addition to mobility, since households that reside in urban areas with secondary education are associated with reduced likelihood of being chronically poor and impoverished, the growth pattern is for rural dwellers to be educated up to the secondary level and then migrate so as to fully participate in the transformations in the urban sector. Also, there is evidence that growth is constrained by the presence of chronic poverty through non-farm employment, the growth pattern for households in the rural areas will be to improve the activities that do not constitute primary agricultural production so they can benefit from opportunities in the rural non-farm economy. But to benefit from this rural non-farm economy, the poor must overcome many policy and resource constraints. These include limited access to connectivity, education and relevant skills training, finance and legal rights to land. Other constraints are associated with exclusion based on gender, age or identity (World Bank, 2017). The rural non-farm sector can, and often does, contribute to economic growth, rural employment, poverty reduction, and a more spatially balanced population distribution (Lanjouw, 2001). Rural non-farm activities account for 35 to 50 percent of rural income in developing countries, and for the landless and the very poor, sustainable income gains at the household level are associated with additional wages earned from non-farm activities (World Bank, 2017).

Introduction

Nigeria like other countries in Africa has experienced real growth in the past few years but not enough poverty reduction has been recorded. However, countries that do well on poverty reduction take agriculture and the livelihoods of smallholders especially Africa's millions of women farmers seriously – through more relevant agricultural research, smallholder friendly infrastructure and improved marketing. **(Arndt, Demery, Mckay, & Tarp, 2015)** in their study of growth and poverty in Sub-Saharan Africa classified countries into four groups, depending on their response to growth and extent of poverty reduction. Nigeria falls under the second group of relatively rapid economic growth but seemingly limited poverty reduction.

They argued that Nigeria failed to improve non-monetary indicators despite massive oil revenues for much of the period. They also stated that the unfocused state of Nigeria's statistics in relation to monetary poverty prevented solid conclusions to be made as regards the nexus. We were not immediately able to comment on their claims until we are able to establish a relationship between patterns of poverty dynamics and growth incidence amongst the poorest.

This paper seeks to clear the doubts raised above by the authors by answering the following questions:

1. What does the analysis of household panel data tell us about the nature, dynamics and magnitude of growth amongst the chronically poor, those escaping poverty and those becoming impoverished?
2. What relationships exist between patterns of poverty dynamics as measured by panel data, and growth incidence amongst the poorest, as measured through national growth incidence curves?
3. What is the impact on growth of chronic poverty?
4. What are the major policy and non-policy factors which lie behind the patterns of growth incidence and poverty dynamics observed?
5. What policy can be recommended to the government based on the analysis?

In answering the above questions, we employed the Living Standard Measurement Survey (LSMS) data, a nationally representative panel data covering 5,000 households in waves one and two. Generally, we seek to examine the types of poverty dynamics/trajectories and growth that is experienced in Nigeria; what have these dynamics and trajectories been attributed to; why do some households become poorer or why do some households who were non-poor in a period slip into poverty in another period; why are some households able to escape poverty and remain out of it over a medium-term; and why do some remain in poverty at all points in time?

Specifically, we aim to study how different factors explain the trajectories of poverty in Nigeria. Our findings showed that Household with cultivable land not utilised have a greater risk of being chronically poor as some household own land that were not cultivated. Further analysis shows that households living in well-connected areas like the urban areas are all associated with cultivating their own land. In essence, our advice for households with land that are not cultivated — that live in the urban areas — is that they should, by all means, increase the number of persons in their home to make good use of the advantage of large household size for agricultural purposes.

In seeking to answer the questions above on the factors that lead to household's impoverishment and chronic poverty relative to escape, we analysed the data and found that an increase in log of asset value makes household less likely to be chronically poor and descend into poverty relative to escaping poverty. An increase in rooms per person is associated with a reduced risk of chronic poverty relative to poverty escapes. An increase in improved sanitary toilet is associated with a reduced likelihood of being chronically poor and descending into poverty relative to escapees. Also, an increase in potable water for households is associated with a reduced likelihood of descending into poverty. However, households with limited access to electricity have an increased chance of descending into poverty.

Regarding household attributes, an increase in household size is associated with a higher risk of chronic poverty and impoverishment relative to an escape from poverty. Increase in the share of dependents is also associated with an increased risk of being chronically poor and descending into poverty. Head with primary education have a greater risk of falling into poverty in rural areas. In the area of activities, head in non-farm employment have an increased likelihood of descending into poverty and a reduced likelihood of being chronically poor. Households that have taken loan have a reduced likelihood of being chronically poor and descending into poverty. Households that participate in a savings group have a reduced likelihood of being chronically poor in the whole and rural samples.

As regards context, households in all regions except the south-west have the likelihood of being chronically poor and impoverished using the whole sample and rural subset. For the urban subset, households in the north-west and south-east have an increased likelihood of descending into poverty. In looking at the impact of negative poverty dynamics, like chronic poverty and impoverishment, on growth, the study re-assessed the non-oil sector sources of growth associated with these negative poverty trajectories. We found that for the gains in chronic poverty to be achieved and reduced drastically, adequate investments in the education sector, non-farm activities should be prioritized. This is because an increase in investment in education is associated with a reduced likelihood of being chronically poor and an increase in education is associated with reduced likelihood of descending into poverty. Further, an increase in non-farm activities brings about a reduced likelihood of being chronically poor. Also, we found that if those descending into poverty must be drastically reduced, transportation sector must be a priority because an increase in transportation costs is associated with an increase in chances of descending into poverty.

Descriptive Study[2]

Macro level: Growth Incidence Curve (GICs)

We conducted sensitivity tests using the uniform distribution for the data generating part of the graphs. We then created GICs using the data since panel data years overlap with the GIC years. In addition, consumption data are in disaggregated form leaving us to base our decision on this data. The results from the analysis are given in graphical form below as:

Figure 1: Poverty Dynamics in Nigeria (2010-2013)
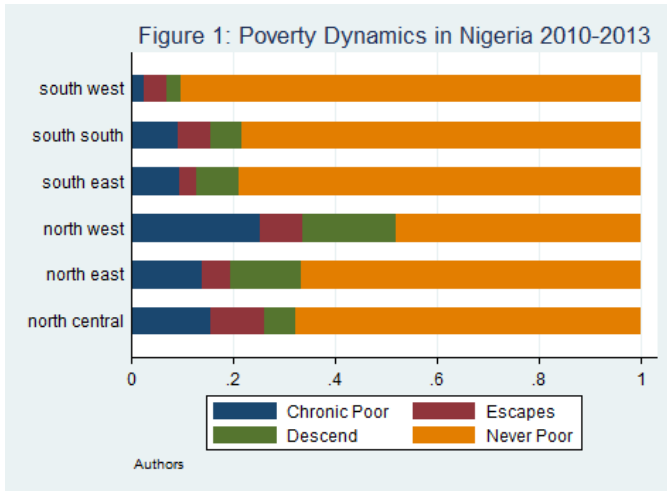
Source: Authors

Table 1: Poverty Trajectories in Nigeria

	Chronic poor	Descents	Escapes	Never poor
National	11.87%	8.72%	6.27%	73.14%
Rural	18.14%	12.41%	8.57%	60.88%
Urban	2.70%	3.33%	2.91%	91.06%
North Central	15.50%	6.02%	10.69%	67.80%
North East	13.80%	13.97%	5.70%	66.53%
North West	25.22%	18.54%	8.33%	47.91%
South East	9.63%	8.37%	3.14%	78.86%
South	9.13%	5.97%	6.50%	78.40%
South West	2.52%	2.78%	4.37%	90.34%

Source: Authors

Figure 2: Poverty Trajectories in Nigeria (2010-2013)
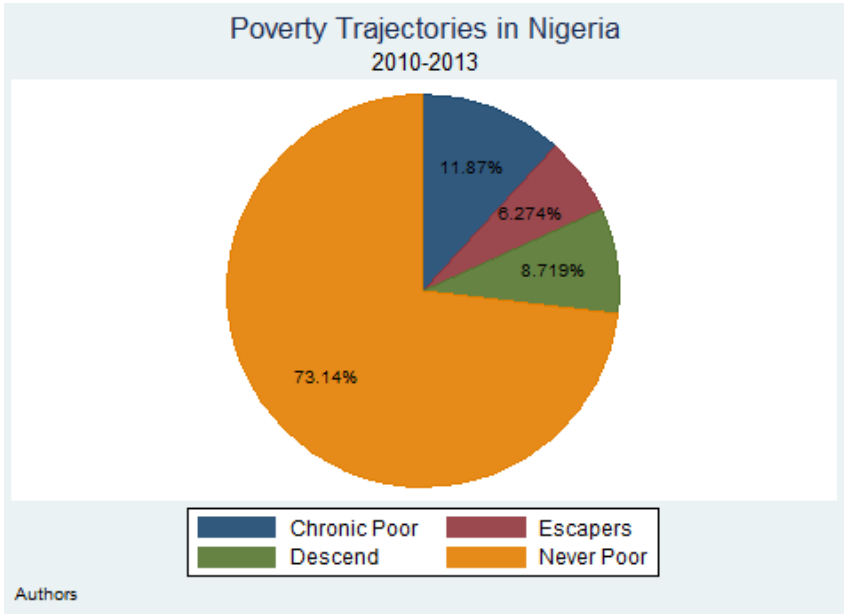
Source: Authors

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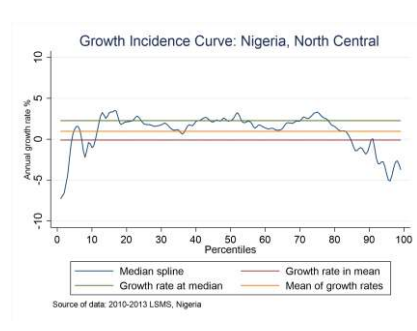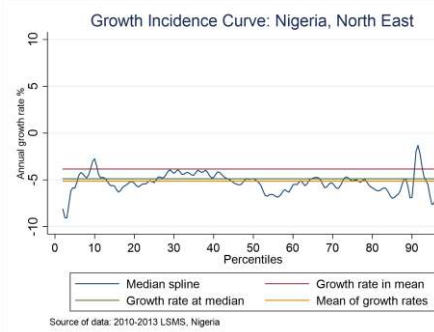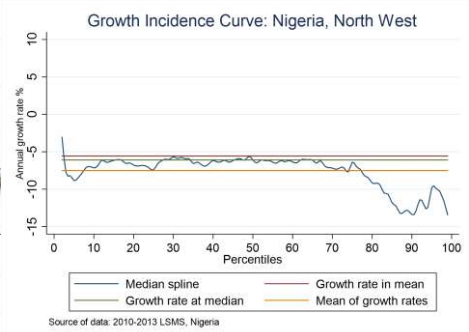
Figure 3:
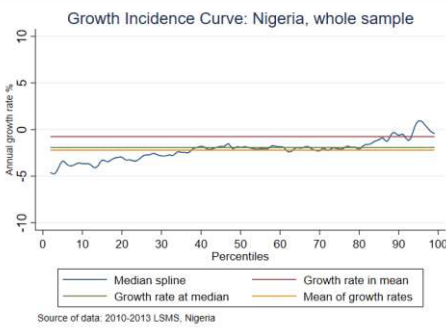
Figure 4:

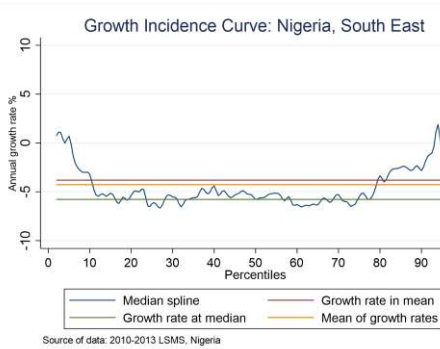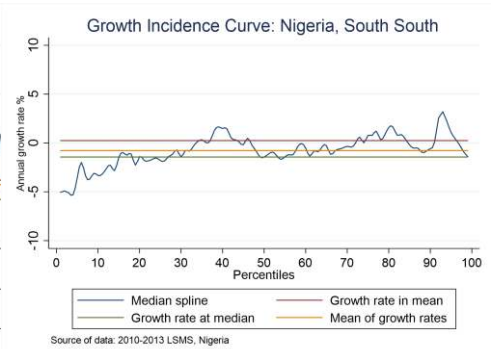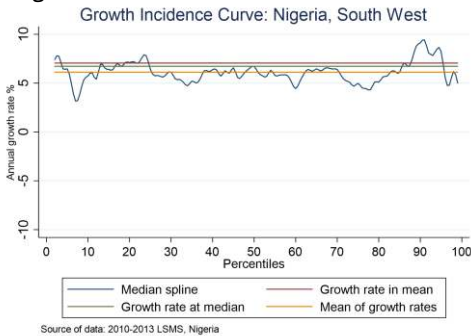**Figure 5:**

Figure 6:

Figure 7:

Figure 8:

Figure 9:

Conclusion

In the whole sample, approximately 12 percent of the households are chronically poor, six percent are escapees, nine percent descended into poverty, while 73 percent were never poor. By region, approximately 16 percent of the households in the north central are chronically poor, 11 percent escaped, six percent descended, while 67 percent were never poor. Further, three percent of the households in the south west were chronically poor, four percent escaped, three percent descended, while 90 percent were never poor. In addition, factors that help households move out of the chronic nature of poverty include household size, share of dependants, and region of residence. Factors contributing to low impoverishment include electricity, education, household size, share of dependents, non-farm employment and region of residence (north-east, north-west, south-east and south-south).

Furthermore, Nigeria should not only industrialise[3] but also focus on all key sectors (Education and Transportation)[4] that will not only help reduce the nature of chronic poverty and short-lived poverty escapes experienced by households, but also inequality, thereby spreading the benefits of growth[5] across the country. This leads us to the discussion of structural transformation[6] that allows inclusive growth. Such structural transformation must not be rapid to avoid growth acceleration episodes thereby hindering growth maintenance – which is paramount (Sen, 2014). The process of structural transformation takes place at many levels. At one end, it is the result of decision-making of individual households or even household members. At the other end, government policies can affect the direction and speed of transformation (Beck, 2015). No doubt, Covid-19 related shocks would cause some economic fluctuations that may slow down economic growth in the short term. However, preliminary in-depth study by (Farayibi & Asongu, 2020) on the impact of the pandemic show insignificant[7] decline on macroeconomic variables like inflation, employment, exchange rate, GDP growth, among others. Besides, deliberate policy actions by the Nigerian government like the recently launched Economic Sustainability Plan (ESP) are likely to ensure early and full recovery of the economic growth trend.

Policy recommendations[8]

1. Encourage households in the rural areas to own more assets to facilitate escapes from poverty and prevent descents into poverty. However, their counterparts in the urban areas are encouraged to own less assets since findings show that urban dwellers that own lesser value of assets have a reduced likelihood of being chronically poor and impoverished.

2. Innovate around the power sector so that the protracted problem in the electricity sector can be resolved in a timely manner. This innovation can be through promotion of policies and interventions in the area of access to basic infrastructure services for the poor. In this regard, while the current federal government investments on strengthening and extending electricity transmission infrastructure is commendable, similar efforts should be made in deploying renewable energy sources to the rural communities across the regions. This will encourage communication firms to upgrade and extend internet connectivity facilities[9] to the rural communities as well. This is particularly important given the emerging new ways of doing things occasioned by the current Covid-19 pandemic. The rural communities must not be left behind in the emerging new normal where acquisition and use of more digital skills would be required.

3. Household size is critical to both reducing chronic poverty, and descents into poverty in the whole and rural sample. To this end, we recommend women empowerment and education since studies have shown that highly educated women tend to have less children[10].

4. Education policy makers need to reflect on the association between completing primary education and impoverishment. Deliberate investment[11] in higher levels of education is critical to ensuring human capital development; as households where head has completed primary education alone are more likely to descend into poverty. In light of the unfolding new normal occasioned by Covid-19, there should be greater embedding of digital skills[12] and multi-media technologies across the different tiers of education in the country.

5. Encourage more households to participate in savings groups and take a loan so that the gains in escaping poverty and preventing descending into poverty can be maintained in the long-term.

6. Paradigm shift of focusing on households[13] in all regions except the south-west should be priority so that the reduction of chronic poverty and impoverishment can be achieved in the long run.

7. Massive investments in non-farm activities that are critical sources of additional income for the poor, so that chronic poverty can be reduced. Within the rural population, households that don't have some form of non-farm income tend to be poorer (World Bank, 2017).

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END NOTE

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[2]Poverty trajectories examined include Never Poor, Descend (Impoverishment), Chronic and Transitory Escapes. Never Poor refers to households that stayed out of poverty. Impoverishment refers to the process whereby a poor person or household becomes poorer, or where someone who is non-poor slips into poverty. Chronic poverty refers to people or households who remain living in poverty. Transitory poverty escapers are those households that used to live in poverty and succeeded in escaping poverty.

[3]Exchange rate policy that has traditionally been thought of as a macroeconomic policy is also an industrial policy and it is true too of other aspects of macroeconomic policy. Economies that rely on monetary policy for macroeconomic stabilization are, simultaneously, affecting the economies' sectoral allocations, for example, relative to what they would be if the government relied more on fiscal policy (Stiglitz, 2015).

[4]For instance, in the Transportation sector, the uncertainty that brings about increase in descending into poverty when investment in this sector is increased should be clarified by transparently reforming the sector and working towards a transport system that works for all -this can be based on improved technology for this sector. After extensive reform programmes to transform the floriculture industry of Ethiopia, the economy became the second-largest floriculture products exporter from Africa with an export value of nearly a quarter billion USD in 2012 (Gebreeyesus, 2014).

[5]Nigeria can become a major exporter of ore and metal like South Africa that relies relatively more than Malaysia, Philippines and China on exports of ores and metals, insurance and financial services but falls short in innovative or value-added exports (Bhorat, Cassim, & Hirsch, 2014). Since a basket of exported goods are critical to growth, development and international competitiveness (Gallagher, Moreno-Brid, & Porzecanski, 2008).

[6]Emerging research suggests that greater attention is needed to the policy context in countries undergoing rapid structural transformation which may be in some cases exacerbating inequality for the landless and the very poor. For example, in Rwanda, a rapidly modernizing agriculture sector may be leading to increased inequality in the farm and nonfarm economies (World Bank, 2017).

END NOTE

[7]Meaning only statistically significant variables can be said to have a correlation amongst themselves - which can then lead to the study of their cause and effect.

[8]For an extended version of this paper which captures the multinomial logistic regression; further regression analysis; and summary statistics of chronically poor, impoverished and escaped households, please write the authors on their e-mail.

[9]The recent reduction of Right of Way (RoW) charges for telecommunication infrastructures by the state governments of Ekiti, Imo and Anambra is a welcome development as this will help integrate the necessary infrastructure needed for this innovation, improve broadband infrastructure and ease doing business.

[10](Osili & Long, 2007).

[11]Evidence on 'What', 'How' and 'Why' is found in Stuart Cameron's work: Scaling up School Improvement in Nigeria: Findings from a New Survey (www.esspin.org)

[12]Technology should be part of the education system as this will lead to innovation and further competition. This innovation strategies should include strategies for reaching learners (pupils), teachers and parents alike (Kimenyi, Otieno, & Kaye, 2020)

[13]Particularly the north-west, south-east and south-south regions since they happen to be a recurring driver of being chronically poor and descending into poverty for the whole and rural samples. Tailoring interventions to these specific local contexts are key for maximizing development effectiveness. The more we know about the chronic poor and descenders in these environments, the more likely we are able to implement policies and interventions that address the needs of these regions (World Bank, 2017).

[14]Since study shows that the rural economy is a key part of the solution to ending poverty, (World Bank, 2017) recommends that policymakers should in partnership with donors and client countries like Nigeria collect information on both formal and informal rural enterprises, their constraints and performance to help better inform the Systematic Country Diagnostic.