

Monetary Inequality among Households in Togo: An Illustration Based on the Decomposition of the Gini Coefficient Using the Shapley Approach

NOGLO Yawo Agbényégan

Paris West University Nanterre La Defense
200 Avenue de la République, 92000 Nanterre (France)
Email address: noglohonore@gmail.com

Introduction

After the political crisis of the 1990s, which had serious economic consequences, Togo began to record an increase in its real growth in 2006 and this reached 3.4 % in 2010 (ADF and AfDB, 2011). However, this performance is insufficient to alleviate poverty and inequality in the country. The purpose of this presentation is the measurement and analysis of inequality in the distribution of household expenditure using the Shapley value decomposition approach. We will attempt to understand what link between the characteristics of household heads and the distribution of expenditure among the households in order to fill the gap in the literature in Togo.

Materials and Methods

Methods

- The well-being indicator is total real annual expenditures per adult equivalent computed by the Oxford equivalence of scale
- The Gini index is the inequality measure used for its popularity and is decomposed through Shapley's value approach in two steps (Duclos and Araar, 2006) :

-First step, total inequality is broken down into total between-groups and total within-groups contributions.

Thus, **Total inequality (I) = Inequality between groups + Inequality within-groups.**

- Second step is expressed as follows : **The total within-groups contribution = Sum of the within-groups contributions of each group.**

Materials

- The Gini index and its decomposition are computed by DAD software developed by Duclos and Araar (1999)
- The data are from the survey QUIBB 2006 on the issue of well-being in Togo, that is 7500 households.

Empirical Results

1) Inequality decomposition by area

The urban area is less equalitarian than the rural area and reflects the widespread of the low standard of living in the rural area. The Shapley approach shows that the within-area inequality (63,27%) is greater than the between-area disparity (36,73%)

| Characteristics of household head | Gini index (%) | Decomposition of within-groups component |
|-----------------------------------|----------------|--|
| | | Relative contribution (%) |
| Urban | 34,01 | 26,28 |
| Rural | 29,25 | 36,98 |
| Between-groups (%) | - | 36,73 |
| Within-groups (%) | - | 63,27 |
| Overall | 38,75 | 1 |

3) Inequality decomposition by age of household head

- There is a decreasing relationship between the distribution of wealth and the age of household head. The Gini index (34,75%) is the lowest in the between 51 and 99 age group as most of household heads in that class of age descended into poverty.

-The Shapley value principle shows that, total within-age inequality (87,22%) is much greater than between -age group s inequality (12,78%). Moreover, the between 31 and 50 age group contributes more to total within-age inequality (45,90%) followed by the more than 50 (23,12%) .

2) Inequality decomposition by gender of household head

- Using Shapley's value approach we see the overwhelming contribution of within-gender groups' inequalities (93,40%) to total inequalities.
- The breakdown of the within-gender component indicates that households managed by men are more contributory to within-gender inequalities (75,54%). Whereas, this contribution is accounted up to 17,95% when women are the chiefs.

| Characteristics of household head | Gini index (%) | Decomposition of within-groups component |
|-----------------------------------|----------------|--|
| | | Relative contribution (%) |
| Male | 38,61 | 75,45 |
| Female | 37,17 | 17,95 |
| Between-groups (%) | - | 6,60 |
| Within-groups (%) | - | 93,40 |
| Overall | 38,75 | 1 |

| Characteristics of household head | Gini index (%) | Decomposition of within-groups component |
|-----------------------------------|----------------|--|
| | | Relative contribution (%) |
| 15-30 | 40,10 | 18,20 |
| 31-50 | 38,23 | 45,90 |
| 51-99 | 34,75 | 23,12 |
| Between-groups (%) | - | 12,78 |
| Within-groups (%) | - | 87,22 |
| Overall | 38,75 | 1 |

Conclusions and recommendations

✓ The strategies to reduce inequalities should be a priority in the within-groups component while putting a strong emphasis on the most contributive strata : **households living in rural areas, households managed by men, households whose head are aged between 31 and 50.** However, the between-groups effect should not be shelved.

✓ Recommendations : State and NGOs must strengthen micro-finance programmes in rural areas. Moreover, awareness campaigns of birth control must be directed to male household heads. Given that, the between 31 and 50 age class is the most active and carries the family burden, the struggle against the disparities of wealth must focus on unemployment. Another measure is to set up safety nets for helping the elderly and retired people. This consist of creating social security for this population.