

STATIC AND DYNAMIC ANALYSIS OF POVERTY IN ALBANIA (2007-2016)

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Abstract: Using data coming from the Household Budget Surveys conducted in 2007-2016 by the Albanian National Statistics Institute (INSTAT), in this paper we set out to investigate the poverty level in Albania. In particular, we employ the static and dynamic approaches to evaluate the effect of growth and inequality in changes in poverty both at national and macro-region level. The results show that: (i) the increase in poor population is due to the lack of growth in consumption and (ii) the improvement in the distribution of consumption has stopped further increases in poverty level.

Keywords: FGT class index, poverty, poverty decomposition, elasticity of poverty, Albania

I. INTRODUCTION

Poverty is a phenomenon that occurs when an individual or family lacks the material or financial resources for a minimum standard of living. Different terms and expressions try to define poverty and this depends on the lack of a unique concept and measure of poverty. Over the years, the issues on poverty reduction have drawn attention both at national and international level; especially, the debate focused on the effect of economic growth on poverty. In the literature there are two points of view on the relationship between economic growth and poverty. According to the 'trickle-down theory' the economic growth reduces poverty when the income distribution remains constant. Those who support this theory state that benefits of a high economic growth trickle down to the poor. Hence, to reduce poverty policy makers should implement policies to stimulate the economic growth (Aghion and Bolton 1997; Todaro 1997; Roemer and Gugerty 1997; Dollar and Kraay 2002; Norton 2002; Ravallion and Chen 2003; Thorbecke, 2013). Conversely, the 'trickle-up theory' affirms that the economic growth worsens the standard of living of the poor because it is above all the middle classes and the rich who benefit from the growth process (Todaro, 1997). It follows that the economic growth worsens the income distribution, which then leads to an increase in the poverty level. Put differently, the second theory argues that the economic growth alone cannot reduce poverty, it must be accompanied by redistribution policies to bring down the inequality level (Anwar, 2010; Fosu, 2017; Fosu, 2010; Mulok et al, 2012; Bigsten and Levin, 2000; de Janvry and Sadoulet, 2000; Ravallion and Datt, 2002; Bigsten et al., 2002). Thus, the link between growth and poverty depends also on the relationship between growth and inequality (Gakuru and Mathenge, 2012). Several theoretical discussions and empirical researches were carried out to examine the relationship between economic growth and inequality, and their effect on poverty level to understand how the income growth linked to economic growth is distributed among the population since changes in the distribution of income could have an impact on the poverty level (Nikoloski and Gveroski, 2017; Bourguignon, 2003). Therefore, in this paper we investigate poverty change in Albania between 2007 and 2016. In particular, we focus on the growthinequality-poverty nexus to evaluate the effect of growth and inequality on poverty change both at national and macro-region level. So, we employ two different approaches: static and dynamic. We perform these analyses exploiting the Household Budget Survey (HBS) carried out by the Albanian National Statistical Institute. These are two cross-sectional surveys conducted on a sample of households equal to 5689 in 2007 and 7353 in 2016.

II. DEFINITIONS AND POVERTY MEASURES

In order to evaluate poverty in Albania both at national and macro-region level we use a monetary approach. This is the widely used approach to identify and measure poverty and it considers income

or consumption as the best possible proxy of well-being (Ruggeri et al., 2003). Hence, crucial are the information on income or consumption. In developing countries, consumer spending is preferred for these reasons: (i) income is more difficult to measure than consumption, especially when the informal sector is an important source of income (Martorano, 2018); (ii) income can be volatile while households tend to smooth out consumption (Langdon et al., 2018); and finally (iii) in rural areas, income changes from one season to another since it depends on the crop cycle. So, seasonal adjustments would lead to a distortion in the estimated income. In addition, to calculate net income in rural areas you need to account for both goods production and self-consumption of the population. For the analysis of poverty in the Albanian context, we use consumption as welfare indicator. We exploit the HBS (Household Budget Survey) surveys carried out by the Albanian National Statistical Institute. These surveys are conducted on a sample of households equal to 5689 in 2006 and 7353 in 2016. To divide the poor from the non-poor, we use a relative poverty line equal to 60% of the median (EUR 250). To quantify the poverty level, we follow the prevailing literature (Clarke and Erreygers, 2019; Wang and Man, 2019; Israeli and Weber, 2014; that employs the FGT indices proposed by Foster-Greer-Thorbecke (1984). The FGT index class has a different formulation, it depends on whether you consider a continuous or discreet distribution. As regards the first case, its expression is:

$$P_{\alpha} = \int_0^z \left(\frac{Z-Y}{z}\right)^{\alpha} f(Y) dy$$
[1]

for a discrete distribution, the general formula is:

$$P_{\alpha} = \frac{1}{N} \left(\frac{Z - Y_i}{Z}\right)^{\alpha}$$
[2]

where Z is the poverty line, Y_i is the per capita consumption of the poor population (q), and finally the parameter $\alpha \ge 0$ plays the role of poverty aversion. The greatest α , the greatest the poverty aversion, i.e. the greatest the weight attached to very poor individuals. The most used poverty index is the headcount ratio that is the ratio of the number of poor to the total population. This index identifies what percentage of population is below the cut-off point and it is expressed as follows:

$$P_o = \frac{q}{N}$$
[3]

where q is the number of poor and N represents the total population. This index is a crude measure of poverty that ignores the difference between consumption of poor and poverty line. In fact, the headcount ratio does not provide information on the position of the poor compared to the poverty line (Foster et al, 1984). This information is crucial to quantify the financial resources needed to reduce poverty. To obtain further information on poverty level we use the intensity of poverty

index, which is equal to the mean value of the poverty gap in proportion to the poverty line (Baldini et al., 2004). This index is measured as follows:

$$P_1 = \frac{1}{N} \sum_{i=1}^{q} \left(\frac{Z - Y_i}{Z} \right) = P_0 \left(\frac{Z - \overline{Y}_q}{Z} \right)$$

$$[4]$$

where Z is the poverty line and Y_q is the mean consumption of poor. The formula of the intensity index can also be written as follows:

$$P_1 = P_0 \left(\frac{z - \bar{Y}_q}{z}\right) = P_0 \text{ALG}$$
[5]

where the average low-income gap (ALG) indicates the average consumption gap of the poor and measures the distance between average consumption of the poor and the poverty line.

Moreover, this indicator is not sensitive to the distribution of consumption among the poor population. Although this indicator is sensitive to changes in the consumption of the poor, it does not satisfy the transfer axiom. Therefore, a transfer of consumption from one poor to another which however remains below the poverty line, should increase the index P_1 but this does not necessarily occur.

Finally, by weighing the consumption gap between those who are extremely poor and the poverty threshold Z, we obtain information on the intensity of poverty among the poorest also known as the severity of poverty index. This measure is calculated as follows:

$$P_{2} = \frac{\sum_{i=1}^{q} (Z - Y_{i})^{2}}{NZ^{2}}$$
[6]

and it can be expressed as (Ravallion, 1992):

$$P_2 = P_0 \left(ALG^2 + (1 - ALG)^2 \cdot CV_q^2 \right)$$
[7]

where CV_q is the coefficient of variation of consumption expenditure of the poor population.

The severity of poverty index satisfies two very important axioms: (i) the reduction of the poor individual consumption increases the value of the severity of poverty index; and (ii) a transfer of consumption from one poor to another poor leads to an increase of P_2 .

III. POVERTY DISTRIBUTION IN ALBANIA

Using a relative poverty line, in 2007, almost 17% of Albanian households had a consumption below the poverty line. Between 2007 and 2016, the percentage of poor households increased significantly to 23.22%. On the contrary, other forms of poverty have been slightly reduced. However, we perform further analysis to test if the increase in poverty level is statistically significant. The differences between the national poverty indices for the period 2007-2016 are significantly different from zero since the statistical t-value is higher than 1.96 in absolute value for all three poverty indices. These differences are also statistically significant for all three poverty

indices. Moreover, it is important to point out that the increase in poverty rates has not been homogeneous.

Deventy Indiana			2016					
Poverty marces	North	Centre	South	National	North	Centre	South	Nationa
Incidence of Poverty	15.77	12.85	22.29	17.16	17.70	21.82	29.15	23.22
Intensity of Poverty	4.28	3.68	6.78	4.99	4.88	5.92	8.61	6.56
Severity of Poverty	1.83	1.51	2.98	2.14	2.15	2.34	3.85	2.80

Table 1. Poverty Distribution in Albania

Source: our calculation based on HBS 2007-2016

Both in 2007 and 2016 the northern prefectures are characterized by the lowest share of population in poverty. On the contrary, the south of Albania has revealed the highest number of households in poverty. Although the southern prefectures have a high number of families below the poverty line, it is up to the prefectures of the center to show a significant increase in the incidence of poverty of around 9%. Table 1 contains information on poverty both at national and macro-region level. Looking at the intensity and severity of poverty, for the years considered, there has been a slight reduction in these indices at national level while at the level of the disaggregation these indicators have experienced a significant increase; in fact, it is always the southern prefectures that are marked by a higher intensity and severity of poverty than the other two regions.

IV. STATIC ANALYSIS OF POVERTY IN ALBANIA

The poverty change depends on two factors. The first is the increase in mean consumption if the consumption distribution does not change (growth effect); the second is the improvement in consumption distribution if mean consumption remains constant (inequality effect or effect of redistribution).

Different methodologies quantify the intensity of these effects. Kakwani (1993) proposed a static approach to evaluate the effect of these two factors by using the data coming from a single survey. This methodology allows to derive the sensitivity of poverty to mean consumption and to inequality.

On the other hand, in order to employ the dynamic approaches, information from time-repeated surveys (at least two) is required. These approaches divide poverty change into growth and inequality effect. The three methodologies are microeconomic and define poverty as a variable

related to economic growth and inequality level. Thus, it supposes that economic growth reflects in an increase in mean consumption which is estimated using the survey data. There is a difference between the economic growth estimated using surveys and the one at macroeconomic level relative to national accounts. Hence, the use of the first presupposes the following hypothesis: GDP growth turns into an increase in mean consumption. The Kakwani's approach (1993) quantifies the poverty elasticity in relation to the mean consumption expenditure and inequality. Therefore, poverty change depends on changes in the mean consumption and Gini's index. According to Kakwani, the poverty index is a function of three elements: (i) poverty line (Z), (ii) mean consumption and finally (iii) consumption inequality captured by the Lorenz curve characterized by K parameters m1, m2, ... mk.

$$\theta = f(z, \mu, L_{(p)})$$
^[10]

If the poverty line remains constant, poverty change can be expressed as follows:

$$d\theta = \frac{\delta\theta}{\delta\mu}d\mu + \sum_{i=1}^{k} \frac{\delta\theta}{\delta m_i}dm_i$$
[11]

So, the poverty change is the sum of two components: the first one measures the pure growth effect; the second one represents the inequality effect.

If we consider the FGT poverty index class, where:

$$P_{\alpha} = \int_{0}^{Z} \psi(Z, X) f(X) dX \operatorname{con} \psi(Z, X) = \max\left(\left|\frac{Z-X}{Z}\right|^{\alpha}; 0\right)$$
[12]

the function $\psi(Z, X)$ has the following characteristics: it is a homogeneous function of degree zero in *Z* and *X*,

$$\frac{\partial \psi(X, Z)}{\partial x} \le 0$$
$$\frac{\partial^2 \psi}{\partial x^2} \ge 0$$
$$\psi(Z, Z) = 0$$

and considering the Lorenz curve characteristics

$$L_{(p)} = \frac{1}{\mu} \int_0^p Q(q) \, dq, L'(p) = \frac{x}{\mu} \, e \, L'(P_0) = \frac{z}{\mu}$$
[13]

Replacing P_{α} we obtain

$$\frac{\partial P_{\alpha}}{\partial \mu} = \frac{\alpha}{\mu} \int_0^z \frac{x}{z} \left(1 - \frac{x}{z} \right)^{\alpha - 1} f(x) dx$$
[14]

Moreover, knowing that $\frac{x}{z} = \left[1 - \left(1 - \frac{x}{z}\right)\right]$, the elasticity of poverty with respect to the mean consumption is for $\alpha \neq 0$

$$\eta P_{\alpha} = \frac{\partial P_{\alpha}}{\partial \mu} \frac{\mu}{P_{\alpha}} = -\frac{\alpha}{P_{\alpha}} \left[\int_{0}^{z} \left(\frac{z-x}{z}\right)^{\alpha-1} f(x) dx - \int_{0}^{z} \left(\frac{z-x}{x}\right)^{\alpha} f(x) dx \right] = -\frac{\alpha(P_{\alpha-1}-P_{\alpha})}{P_{\alpha}}$$
[15]

for
$$\alpha = 0$$

$$\eta P_0 = \frac{\partial P_0}{\partial \mu} \frac{\mu}{P_0} = -\frac{zf(z)}{f(z)} < 0$$
[16]

For the latter case, an increase in mean consumption of 1% allows to identify the percentage of the poor population that could come out of poor status (especially the poor population close to the poverty line).

If $\alpha \ge 0$ the poor population is weighted, it is possible to better evaluate the effect of change in consumption variation in the different groups of the poor. Kakwani (1992) showed that changes in the poverty λP_{α} due to the inequality effect could be evaluated by the ratio of the elasticity of P_{α} and the Gini coefficient.

$$\lambda P_{\alpha} = \frac{1}{P_{\alpha}} \int_{0}^{z} \frac{\partial \psi(x,z)}{\partial x} (x-\mu) f(x) dx = \eta P_{\alpha} - \frac{\mu}{P_{\alpha}} \int_{0}^{z} \frac{\partial \psi(x,z)}{\partial x} f(x) dx = \eta P_{\alpha} + \frac{\alpha \mu P_{\alpha-1}}{ZP_{\alpha}}$$
[17]

If the poverty line is lower than the mean consumption, $(z - \mu)$ is negative since $x \in [0, Z]$. Moreover, for $\frac{\partial \psi(x,z)}{\partial x} \leq 0$, the elasticity of P_{α} with respect to the Gini index will be positive.

To quantify the elasticity of the index P_0 with respect to the Gini index, Kakwani (1993) suggested a shift in the Lorenz curve as a function of a parameter β equal to the proportional change of the Gini index. Knowing that a change in inequality leads to a change in poverty level and supposing that the mean consumption remains constant, the shift of the Lorenz curve can be interpreted as a change in poverty line Z to Z^* where $Z^* = \frac{(Z+\beta\mu)}{(1+\beta)}$. Considering this assumption, the elasticity of

 λP_{α} can be written as:

$$\lambda P_0 = \frac{P_{0(Z^*)} - P_{0(Z)}}{\beta P_{0(Z)}}$$
[18]

When the poverty is affected by both change in mean consumption and consumption inequality, it is possible to identify a marginal proportional rate of substitution (Kakwani, 1993).

$$MPRS = \frac{d\mu}{\mu} \frac{G}{dG} = -\frac{\lambda P_{\alpha}}{\eta P_{\alpha}}$$
[19]

This ratio gives information on the increase of mean consumption to stop or to offset an increase of Gini coefficient in order to avoid further increase in poverty level.

Table. 2 Elasticity of poverty and Marginal Proportionate Rate ofSubstitution (MPRS)

Year	Elasticity of Poverty / Mean Consumption expenditure		/ Mean diture	Poverty Elasticity of Poverty/Gini Index				MPRS				
	North	Centre	South	National	North	Centre	South	National	North	Centre	South	National

Incidence of poverty

2007	-2.07	-1.74	-2.41	-2.08	2.63	2.34	2.53	2.52	1.27	1.34	1.05	1.21	
2010	-1.90	-1.94	-2.52	-2.12	Intens	ity of pov	erty	1.07	1.04	0.91	0.74	0.07	
2007 2016	-2.30 -1.96	-1.84 -2.43	-3.11 -3.13	-2.44 -2.54	5.04 3.64	4.22 3.90	6.18 4.82	5.17 4.15	2.19 1.86	2.29 1.61	1.99 1.54	2.12 1.63	
	Severity of Poverty												
2007	-2.29	-2.03	-3.55	-2.66	7.05	6.02	9.69	7.65	3.08	2.97	2.73	2.88	
2016	-1.95	-2.56	-3.39	-2.68	5.34	5.42	7.69	6.16	2.74	2.12	2.27	2.30	
	Source: our calculation based on HBS 2007-2016												

Source: our calculation based on HBS 2007-2016

Table 2 shows that between 2007 and 2016, the sensitivity of poverty to economic growth increased in the central and southern region of the country, while it experienced a reduction in absolute terms equal to 0.20 in the northern region. Sensitivity becomes more marked if other poverty dimensions are considered. Moving on to the sensitivity of the severity of poverty, we find that it has also increased in the central region, whereas in the other two macro-areas the reactivity of poverty to economic growth has decreased. In other words, when the inequality of consumption distribution is neutral, the economic growth has a strong impact on the extremely poor, especially in the southern prefectures that have experienced higher values of poverty in all its dimensions in the southern prefectures more than in all the others. Therefore, ceteris paribus, a higher economic growth area.

Going back to the sensitivity of poverty with respect to economic growth among the poorest individuals, the elasticity of poverty increases. This means that the economic growth could have a greater impact on the extremely poor population than on the middle classes.

Finally, the last part of the table shows the marginal proportional rate of substitution (MPRS). This ratio reveals how much the growth effect should increase to offset the inequality effect to avoid an increase in poverty level. MPRS records high values when we focus on the extremely poor population. It follows that the compensatory effect of the economic growth is crucial to curb any worsening of the poverty level in terms of intensity and severity attributable to an increase in inequality level. To sum up, these results highlight that the poverty elasticity is strongly sensitive to the economic growth and how it could control the negative effect due to an increase in inequality level.

V. PROSPECTS OF POVERTY REDUCTION

The elasticity coefficients between economic growth and poverty shown in the previous section highlight that even a small increase in mean consumption could have a significant effect on poverty change in all its dimensions when the growth does not cause an increase in inequality level. On the

contrary, when the economic growth is accompanied by an increase in inequality, there could be an increase in poverty level. Obviously, this result is closely related to the inequality level deriving from the increase in consumption. To investigate this relationship, we perform two simulations that account for two scenarios of economic growth. In the first simulation the assumption is that economic growth is neutral in terms of inequality. Conversely, in the second one the economic growth is not neutral; in fact, it causes an increase of 1% in inequality level, the latter being measured by means of the Gini coefficient.

Each simulation includes three scenarios: a "low scenario" with a growth in the consumption expenditure per capita between 1.0% and 1.5%; a "medium scenario" in which growth varies between 2.0% and 2.5%, and finally, a "high scenario" characterized by a growth variation between 3.0% and 3.5%. This analysis allows to set poverty reduction targets and simulate the impact of different policies on poverty level. Table 3 shows the results of simulations.

	Growth in consumption expenditure (%	Incidence of Poverty	Intensity of Poverty	Severity of Poverty
	per year)			
	Hypothesis: neutral redistributive eco	onomic growth (G/G=0%)		
Low Growth Scenario	1	-2,12	-2,54	-2,68
	1,5	-3,18	-3,81	-4,02
Intermediate Growth Scenario	2	-4,24	-5,8	-5,36
	2,5	-5,30	-6,35	-6,7
High Growth Scenario	3	-6,36	-7,62	-8,04
	3,5	-7,36	-8,89	-9,38
	Hypothesis: no neutral redistributive e	conomic growth (G/G=1%)		
Low Growth Scenario	1	-0,23	1,61	3,48
	1,5	-1,29	0,34	2,14
Intermediate Growth Scenario	2	-2,35	-1,65	0,8
	2,5	-3,41	-2,2	-0,54
High Growth Scenario	3	-4,47	-3,47	-1,88
	3,5	-5,47	-4,74	-3,22

Table 3. The effect of economic growth on poverty

Source: our calculation based on HBS 2007-2016

First of all, an economic growth without an increase in inequality could reduce the poverty in all its dimensions. Looking at the first growth scenario and assuming an economic growth rate of 1%, the poverty rate would be reduced at national level to an annual rate of 2.12%. Compared to the intensity of poverty, this proportion is 2.5%. Finally, even the reduction of the severity of poverty is about 2.70%. The intermediate growth scenario shows (2.5%) a significant reduction in all three poverty dimensions. Those who benefit most from such economic growth are the households that lie in the left tail of the distribution of consumption. Even the high scenario has very positive

values. Indeed, if the annual growth rate of per capita consumption in Albania were 3.5%, the incidence of poverty would be reduced at national level to an annual rate of 7.36%.

When we remove the hypothesis of the first simulation, the prospects of poverty reduction are less encouraging. Indeed, if we consider the low growth scenario (1%) with non-neutral growth, the incidence of poverty would experience a slight reduction of 0.23%. Looking at the other dimension of poverty, the results that the results are by no means encouraging, in fact, an increase in inequality of 1% slows down the positive effects of economic growth on poverty reduction. The inequality has negative effects on poverty reduction when the growth rate is equal to 2.5%. These two simulations show that an increase in the average level of consumption does not necessarily reduce poverty. A weak economic growth could have a positive impact on poverty reduction if the inequality level does not change. On the contrary, if the economic growth is accompanied by an increase in inequality, poverty in all its dimensions can worsen. In Albania, consumption growth per capita could reduce poverty if it had values that were twice those related to inequality.

VI. DYNAMIC OF POVERTY CHANGES IN ALBANIA

The analysis performed in the previous section does not take into account the interactions between poverty, economic growth and inequality. We employ dynamic analysis to examine these interactions. Thanks to the dynamic approach, we neutralize the effect of inflation and we use one poverty line (for the two years) estimated by making reference to 2007 prices. Indeed, to decompose poverty change in Albania, we use a poverty line. The dynamic procedure proposed by Datt and Ravallion (1992) allows to evaluate the impact of economic growth and consumption expenditure decomposing the poverty change in relation to two time periods.

Given a fixed poverty line, the poverty level (P), for the two periods, is a function of the mean income μ_t (or mean expenditure consumption) and the Lorenz curve L_t .

$$P = (\mu_t, L_t)$$
^[20]

According to this methodology, a change in poverty over the two periods can then be decomposed as follows:

$$P_{1+n}^t - P_1^t = C(t_1, t_{1+n}, r) + D(t_1, t_{1+n}, r) + R(t_1, t_{1+n}, r)$$
[21]

The growth component (C) shows the poverty change achieved if the Lorenz curve remains unchanged; the redistribution component (D) reflects the poverty change resulting from the change of the Lorenz curve if the mean income (or mean consumer spending) does not change; finally, the residual (R) defines the interaction between growth and redistribution effect. The residual term has some drawbacks: (i) it can take on a high value so as to be higher than the value of the distribution effect; (ii) it is not easy to interpret the value that it takes since changes in poverty depend on a change in consumption expenditure and inequality (Kakwani, 1997) and (iii) it considers the initial and final periods asymmetrically (Boccanfuso and Kaborè, 2004). The axiomatic approach proposed by Kakwani (1997) overcomes these limitations, it removes the residual term and considers symmetrically the initial and final periods. This approach is a particular case of Shapley's decomposition (1957) then proposed by Shorrocks (1999). According to Shorrocks (1999), the change in poverty depends on the impact of growth and redistribution. This methodology identifies how growth and redistribution contribute to the poverty change (ΔP).

$$\Delta P = P(\mu_2, L_2) - (\mu_1, L_1) = P(\mu_1(1+C), L_1+R) - P(\mu_1, L_1) = F(C, R) = C_C^S + C_R^S$$

$$C_C^S = \frac{1}{2} [P(\mu_2, L_2) - P(\mu_1, L_1) - (P(\mu_1, L_2) - P(\mu_1, L_1))] + [P(\mu_2, L_1) - P(\mu_1, L_1)] =$$

$$(22)$$

$$\frac{1}{2}[P(\mu_2, L_2) - P(\mu_1, L_2) + P(\mu_2, L_1) - P(\mu_1, L_1)]$$
[23]

 C_c^s represents the growth factor and it is equal to the average of two components: the poverty change if the inequality is fixed and is equal to that of the initial period, and the poverty variation if the inequality is fixed and is equal to that of the final period.

$$C_{R}^{S} = \frac{1}{2} [P(\mu_{2}, L_{2}) - P(\mu_{1}, L_{1}) - (P(\mu_{2}, L_{1}) - P(\mu_{1}, L_{1}))] + [P(\mu_{1}, L_{2}), P(\mu_{1}, L_{1})] = \frac{1}{2} [P(\mu_{2}, L_{2}) - P(\mu_{2}, L_{1}) + P(\mu_{1}, L_{2}), P(\mu_{1}, L_{1})]$$
[24]

 C_R^S is the inequality factor, it is the average of two elements: the poverty change if the average income is fixed and equal to that of the initial period and the poverty change if the average income is fixed and equal to that of the final period. Shorrocks' approach doesn't include the residual term, it provides an exact decomposition of the poverty change that is equal to the sum of the contribution of growth and inequality. Table 4 shows the effects of economic growth and inequality on poverty change over the period considered. The results allow to observe the simultaneous interaction of growth and inequality on poverty change.

Table 4. Poverty change decomposition

Region	Region Poverty		Growth Effect		y Effect	Residual		
0	Change	Datt &	Shorrocks	Datt &	Shorrocks	Datt &	Shorrocks	
		Ravallion		Ravallion		Ravallion		
			Incidence	of Poverty				
North	1,93	5,44	5,52	-3,67	-3,59	0,18	-	
			Intensity of	of Poverty				
North	0,59	1,74	1,57	-0,79	-0,97	-0,35		
			Severity of	of Poverty				
North	0,32	0,78	0,70	-0,30	-0,38	-0,16		
			Incidence	of Poverty				
Centre	10,21	8,10	8,32	1,66	1,88	0,46		
			Intensity of	of Poverty				
Centre	2,78	2,36	2,55	0.03	0,22	0,38		

Severity of Poverty										
Centre	1,09	1,06	1,12	-0,08	-0,02	0,11				
Incidence of Poverty										
South	9,88	9,66	10,84	-2,14	-0,96	2,35				
		I	ntensity of l	Poverty						
South	2,93	3,58	3,52	-0,52	-0,59	-0,13				
	Severity of Poverty									
South	1,39	1,79	1,72	-0,26	-0,33	-0,13				
		Ir	cidence of	Poverty						
National	6,05	6,61	6,99	-1,32	-0,94	0,77				
	Intensity of Poverty									
National	1,57	2,25	2,21	-0,62	-0,65	-0,07				
Severity of Poverty										
National	0,66	1,08	1,03	-0,33	-0,37	-0,09				

Source: our calculation based on HBS data

At the national level, the increase in the incidence of poverty depends mainly on economic growth. In fact, for the period considered, if the Lorenz curve had remained unchanged, poverty would have increased by 6.61% and 6.99%, according to the methodology of Datt and Ravallion and Shorrocks, respectively. Since the observed variation has lower values, this difference is attributable to the other component that stopped the increase in the number of the poor. The findings obtained using the Shorrocks's approach show that 115% increase in poverty is due to a reduction in average consumption and the remaining part is attributable to the improvement in the distribution of wealth. These results are also confirmed when the poor population is weighted. In fact, the proportions are 140% and 156% for the intensity and severity poverty, respectively. These indices show that the increase of poor households is due to the lack of growth in average consumption. On the contrary, the improvement in national distribution has reduced the gap between average consumption and poverty line. Examining the results at the disaggregated level, we find that northern and southern regions have the same trend experienced at national level. In the two prefectures of the Centre, the growth effect and the inequality effect contribute jointly to the increase in the number of poor families. The analysis of the dynamic poverty decomposition shows how economic growth and inequality impact on the poverty level in a given country is also important for policymakers in order to understand the policy decisions to make.

VII. FINAL REMARKS

Although Albania has impressive per capita GDP growth rates, it still remains a country with a significant development gap compared to the European Union which it wishes to join and a high level of unemployment and poverty. In fact, between 2007 and 2016, i.e. the years covered by our analysis, there was an increase in all three dimensions of poverty.

The region of the South has the highest portion of households below the poverty line, while the prefectures with the lowest percentage of poor population are those in the North. Between 2007 and 2016, the prefectures of Elbasan and Tirana were characterized by a strong increase in the number

of poor families. In Albania, the increase of poverty is due to the reduction in the average level of consumption. Therefore, the increase of the number of poor households is attributable to the lack of growth in consumer spending and not to an increase in inequality. In other words, the lack of growth in consumer spending has contributed to increase the number of poor households. On the contrary, the improvement in national distribution has caused a reduction in the difference between consumer spending and poverty line. In addition, the results obtained from the two methodologies confirm that the cause of the increase in the level of poverty depends on the reduction in the value of consumption expenditure, and the improvement in the distribution of expenditure consumption among Albanian households has stopped further increases in poverty level.

The results obtained in the prefectures of the Centre deserve attention. In this area, the effects of growth and inequality go in the same direction, in fact these two effects have jointly contributed to the increase in the number of poor families. To conclude, the use of these two methods of poverty decomposition allows to investigate how much the two effects have an influence on the variation in poverty. In other words, they could be the starting point for decision-makers to understand the policy decisions to make.

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APPENDIX

Territorial distribution of Poverty in Albania





