

# Analysis of Pro-Poor Growth on Poverty Reduction across Vulnerable Social Groups in the Case of Emerging Regional States, Ethiopia

Pal Both <sup>1\*</sup>, Dr. Anupama Uppal <sup>2</sup>

<sup>1</sup> Economics Department, Punjabi University, Patiala, India.

<sup>2</sup> Professor in Economics Department, Punjabi University, Patiala, India.

\*Corresponding Author Email: <sup>1</sup> pal.both99@gmail.com

## Abstract

Since Ethiopia's inception of a pro-poor economic strategy, empirical evidence on how this policy benefited the poorest has been lacking, particularly in emerging regional states. To address the issues in this problem in accordance with pro-poor growth policy, the research utilized the ECSA surveys to apply the all-pro-poor-growth decompositions technique. According to the findings, the poorest of the poor were excluded from the benefits of such growth. Pro-poor income growth made just a minor contribution to the alleviation of absolute and relative poverty. The general income growth across all vulnerable social groups, except the disabled group on 1995-96 to 1999-2000, increased in all the entire transition periods; while at the same time the growth of pro-poor incomes showed decline inversely. Growth only benefited the poor over the non-poor on all poverty measures from 2004-05 to 2010-11. Between 2010-11 and 2015-16, there was modest pro-poor income increase among the vulnerable, but only in terms of headcount and poverty gap levels. According to the findings of the research, Ethiopian growth is not pro-poor; rather, it is anti-poor growth. To address this unprecedented result, national poverty reduction policies must be changed, with a strong emphasis on pro-poor measures.

## Keywords

Bullion investment, digital/e-gold, Economic Growth, Emerging Regions of Ethiopia, Exchange Traded Fund (Gold ETF), gold mutual funds, Income Growth, Income Redistribution, Pro-Poor Growth, Sovereign Gold Bond (SGB), Vulnerable Social Groups.

## INTRODUCTION

With Ethiopia's economic progress, both poverty and inequality among socioeconomic classes have increased, despite the country's improved economic performance. The ensuing poverty and inequality indicate the presence of growing impoverished populations that are unable to cope with the economic, environmental, social, and political shocks that have long been a part of everyday life in emerging nations (ENPC, 2017) [30]. Increased economic growth through the free market and functional income distribution, however, does not result in the promised wealth distribution to the masses and majority of the people in the lowest segments, contrary to political expectations [1]. Rather, the effect manifests itself in diverse socioeconomic sectors, with some becoming exceedingly wealthy and the majority becoming impoverished. There is a growing vulnerable social group deep within these lower-income groups, which is unable to withstand both economic and environmental shocks [38]. In accordance with Article 25 of the Universal Declaration of Human Rights, adopted by the United Nations General Assembly on December 10, 1948, this marks a turning point in Ethiopian government care for disadvantaged social groups. This text (Article 25) was eventually translated into Ethiopian National Fundamental Rights, which was retained in Article 41 of 1995, along with national poverty reduction programs (MoLSA, 2016) [49].

The Ethiopian Government reduced and developed remedial poverty and inequality, lowering pro-poor policies

and strategies based on the universally written Sustainable Development Goals, combined with the country's National Plans, to prevent the rising vulnerability of the most vulnerable socioeconomic groups [25] [26]. The national policy of "Agricultural Development Led Industrialization" addresses poverty and inequality among vulnerable socioeconomic groups [44] [45]. This strategic policy document attempted to alleviate poverty because of long-term chronic food insecurity, a lack of rural infrastructure, and enhancing capacity-building program. As a result, from 2005 to 2009, the Sustainable Development and Poverty Reduction Programme (SDPRP) and the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) identified several barriers for poverty eradication (WB, 2015) [66] [67]. The issue of chronic poverty is once again addressed in the current national "Growth and Transformation Plan I and II" documents (MoLSA, 2014) [48]. It's critical to determine whether existing policies to reduce poverty and inequality are effective enough to solve the problems of the poorest of the poor, or whether those living in extreme poverty require additional programs beyond those offered by existing policies to alleviate poverty and inequality.

Following all of the pro-poor measures that have been adopted in the nation thus far, several empirical studies have been done with little data to determine whether the poor have truly benefited from the country's economic progress. While many studies framed the overall impact of pro-poor growth in the context of total people in the economy, it was observed

that a specific observation was not concentrated on the most vulnerable socioeconomic groups, who are believed to be the most victims of all. On the other hand, it became clear that previous studies on the subject of pro-poor growth in Ethiopia were negligible when compared to the backdrop of Ethiopia's numerous developing regions. We can witness these unmatched reality from the researches being conducted by (Bossuyt, A., 2017 [11]; Geda et al., 2009 [35] ; Mohammed & Haji, 2014 [47] ) in the field of pro poor in which all of them frame only the biggest states in the country. These conditions, in which there is a lack of empirical evidence to explain the continued function of pro-poor policies in Ethiopia's emerging regional states, prompt the researcher to conduct extensive examinations of the facts. To comprehend how pro-poor policies are affecting the poor in particular, it is necessary to answer the following questions: What was the degree of economic/income growth among vulnerable in Ethiopia's emerging regional states? Do the poorest gain more than the middle class from the country's economic growth? Which measures, out of income growth and redistribution, contributed the most to poverty reduction among the lowest sectors (vulnerable social groups)? Furthermore, during which periods of economic growth did the poorest people's income levels recover the most, and vice versa? To address these concerns, the purpose of this study is to examine the impact of pro-poor policies adopted thus far on the decrease of poverty in general, and among the poorest and most vulnerable social groups in particular, taking the case of four emerging regional states of Ethiopia (i.e, Gambella, Somalia, Benishangul, and Afar).

## METHODOLOGY

### Location of Research Areas

The research locations were classified as Ethiopia's emerging regions, which are defined by their distance from the country's center and settlements with sparsely populated areas in comparison to the country's highlands. These include Afar, Gambella, Somalia, and Benishangul-Gumuz. The study is based on secondary sources. The information is both cross-sectional and longitudinal. The Ethiopian Food Security Coordination Directorate, which implements the PSNP, and the Ethiopian Ministry of Agriculture and Rural Development contributed information on rural families' livelihoods, shocks, vulnerability, and climate change. The Ethiopian Central Statistical Agency (ECSA) gathered data on poverty and inequality from surveys on labour, household income consumption and expenditure, health and nutrition, informal sectors, urban unemployment, welfare monitoring and consumer price index, health, education, water and sanitation, energy consumption, fiscal expenditures (tax reform), and social assistance in Ethiopia. The data sources used in this research were ECSA's gathered, recorded, and stored data.

The study focused on the most disadvantaged socioeconomic groups or vulnerable groups who had seen both a long-term and short-term drop in their welfare status.

As a result, these socioeconomic groups were targeted by traditional poverty reduction fiscal strategies and social welfare program schemes. Women from diverse socioeconomic backgrounds were studied, as well as older people over 65 who were in danger of physical deterioration, orphaned children under the age of 18, handicapped people with single or multiple disabilities, and urban informal workers. The vulnerable individuals were chosen from the 1994-95, 1999-2000, 2010-11, 2004-05, and 2015-16 Household Income Consumption and Expenditures (HICE), Demographic and Health, Family and Fertility, Health and Nutrition, Informal Sectors, Welfare Monitoring, and Child Labour Surveys.

### Methods and Tools for Data Analysis

The pro-poor decomposition supported by the FGT index was used to evaluate the growth rates of income of vulnerable social groups from the general economic growth in the research of pro-poor growth and poverty measures. Various analytical tools were used extensively during the study process, including Microsoft Excel, SPSS 26, Stata 16, DASP (Distributive Study Stata Package), and DAD 4.6 (Distributive Analysis/Distributive). The data was organized using Microsoft Excel, while the secondary data from the Ethiopian Statistical Agency was analyzed using SPSS 26. DASP and DAD were employed interchangeably in the breakdown of the pro-poor growth model.

### Pro-poor Growth Decomposition of Poverty: Full Approach on Welfare and Inequality Dominance Analysis

Applying the appropriate measures to address the connection between economic growth and poverty reduction is critical. The foundation of poverty alleviation is primarily based on two elements. The direction or intensity of economic (income) growth is the first of these elements. Economic (income) growth can inadvertently lower poverty levels. Changes in inequality are a second aspect to consider. The problem of growth's influence on poverty reduction is addressed by changing inequality [6]; [42]). That is, despite increased economic development, more inequality may lead to higher poverty rates. Taking into account all of these considerations, the PEGR indices integrate these two components into a single index to satisfy the monotonic connection between income growth and inequality in the direction of poverty reduction [43]. PEGR's methodology is also more broad in terms of its applicability to all pro-poor poverty policies under non-additive-decomposable poverty approaches, such as those proposed by Kakwani in 2008 and Sen in 1976), respectively.

In order to decompose the pro-poor PEGR, let us take the  $\eta$  as the poverty elasticity of growth. In this, the elasticity of growth is defined as the proportionate change in poverty when the growth rate becomes dominant. Moreover,  $\eta$  can be divided to be decomposed into  $\delta$  and  $\varepsilon$  components. This can be presented as:

$$\eta = \delta + \varepsilon \text{ ----- 7}$$

From equation,  $\delta$  is related to pure growth effect, and  $\varepsilon$  represents inequality effect. Thus,  $\delta$  takes the proportional change in poverty in a case the distribution of income does not vary, and it stood for the proportional change in poverty when inequality varies in case when there is no change in growth. The reality in this equation is that in the equation we need to have  $\delta$  negative because when the growth rate is positive, the poverty can always decline, and when the growth rate is negative, the poverty rise. Again,  $\varepsilon$  can be either negative or positive. This situation depends on the fact that if the change in inequality is accompanied by growth reduction or increase. Considering all these rationales in equation, the growth can be pro-poor when  $\varepsilon$  is negative. To address this notion, Kakwani and Pernia (2000) present the degree of pro-poor growth as:

$$\phi = \frac{\eta}{\delta} \text{-----} 8$$

To interpret this equation logically, the  $\phi$  needs to be greater than 1 when  $\varepsilon < 0$ . In this condition, the growth can be pro-poor when  $\phi > 1$ . This interpretation determines that the poor benefit proportionally more than the non-poor that can easily lead to redistribution inclusive to the poor. But, when  $0 < \phi < 1$ , thus, the growth does not satisfy pro-poor criteria, even if it reduces the incidence of poverty. Therefore, this type of growth is always known as “trickle-down” growth, rather than pro-poor growth. In case the  $\phi < 0$ , thus, the economic growth can mostly lead to an increase in poverty (Bhagwati 1988)

The  $\phi$  index measures how the benefits of growth among the vulnerable are distributed. To articulate how these benefits are distributed among the vulnerable, let take  $g$  as the growth rate and  $P_\alpha$  as the poverty measure. To this, the proportional change in poverty can be rewritten as:

$$\Delta \log(P)_\alpha = f(g, \phi) \text{-----} 9$$

The following equation above indicates the existence of the two factors that are responsible for poverty reduction in one region. Among these factors is a growth rate that is  $g$ . The  $g$  that is the growth rate affects the mean income of society. The other factor is related to the distribution of the benefits of economic growth is measured by the pro-poor index of  $\phi$ . To determine  $f(g, \phi)$ , the case of poverty equivalent growth rate is introduced by  $g^*$ . The  $g^*$  is defined as the growth rate that results in equal-proportional poverty reduction due to the growth rate with no change in income inequality. It is really manifested when the population receives the same proportional benefits of growth. However, the  $g^*$  can be equated as:

$$f(g^*, 1) = f(g, \phi) \text{-----} 10$$

From this equation, when the  $\phi = 1$ ; then, it becomes the case of everyone receives the same proportional benefits. To further justify this, we need to rewrite them as:

$$\Delta \log(P)_\alpha = f(g, \phi) = g \eta \text{-----} 11$$

When  $= 1$  and  $\eta = \delta$ , the equation can be:

$$f(g^*, 1) = \delta g^* \text{-----} 12$$

Therefore, the cumulative effect of all these equations gives the PEGR that can be holistically rewritten as:

$$g^* = g \phi \text{-----} 13$$

Where ultimately, the PEGR can be well rewritten again as:

$$g^* = g + (\phi - 1)g \text{-----} 14$$

The PEGR, as measured by  $g^*$ , determines the effective growth rate of poverty reduction, according to this final equation. In this equation, however, the proportional reduction in poverty is also expressed as a rising function of  $g^*$ . As a result, the bigger the  $g^*$ , the greater the proportionate poverty decrease. In this scenario, increasing  $g^*$  is the same as increasing the overall proportionate poverty decrease (Buhmann *et al.*, 1988). The logic of the equation demonstrates that the poverty equivalent growth rate may be used to better understand a country or area than the growth rate alone. When  $g^*$  is larger than  $g$ , the growth might be pro-poor, according to the equation. However, if  $g^*$  is between 0 and  $g$ , growth is thought to be followed by an increase in disparities, even if poverty is reduced. As a result, in a situation where the impoverished obtain proportionally fewer advantages than the non-poor, this condition can only decide the trickle-down effect [43]. When the  $g^*$  is negative, however, good growth may exacerbate poverty. As a result, the most likely explanation is that as inequality grows, the population's capacity to profit from it decreases [43].

#### ANALYSIS AND DISCUSSIONS

Many indicators have been proposed by the relevant literature for assessing the pro-poorness of growth. One of the key indices is that presented by Ravallion and Chen (2003), which offers us a suggestion on how to evaluate poverty equivalent growth rates and poverty elasticity of growth for the total poor population and those in the lowest decile of the poor in particular. As a result, an attempt has been made to investigate the pro-poorness of growth among vulnerable socioeconomic groups in Ethiopia's developing regional governments.

**Table 1: The Overall Pro-Poor Growth Analysis**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
Growth rate(g)	9.42	36.18	24.14	128.62	120.90
Pro-Poor Growth among the Poorest at the Lowest Decile Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	0.44	-6.71	43.04	148.59	103.21
PEGR - g	-8.98	-42.89	18.90	19.97	-17.69
Poverty Gap - P1 ( $\alpha=1.00$ ); based on Absolute Poverty Lines					
PEGR index	0.20	-42.13	48.33	127.58	110.21
PEGR - g	-9.22	-78.31	24.19	-1.04	-10.69
The severity of poverty - P2 ( $\alpha=2.00$ ); based on Absolute Poverty Lines					
PEGR index	0.11	-45.54	34.38	124.53	97.11
PEGR - g	-9.31	-81.72	10.24	-4.09	-23.79

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

As shown in Table 2, the analytic results revealed that economic growth rates were positive in all periods. The change in all social groups' incomes across transitional periods was used to calculate these growth rates. The highest growth rate of almost 100 percent was recorded from 2010-11 to 2015-16, while the lowest growth rate was reported from 1995-96 to 1999-2000.

Seeing the effect of pro-poorness in the aggregate is not enough to truly comprehend the change in poverty level among the poorest of the poor, who are located in the lowest deciles of poverty. As a result, we may use the poverty equivalent growth rate function to figure out how the poorest of the poor have been affected by the growth process. As shown in Table 2, during 1995-96 to 1999-2000, the growth of average income of the poorest decile class fell 8.98 percentage points short of the overall growth in income. When it comes to the average poverty gap and the squared poverty gap (or severity of poverty), the difference widened to 9.22 percentage points and 9.31 percentage points, respectively. This demonstrates that growth has not been pro-poor for the lowest decile groups over this time. It also indicates that transfers for the poorest of the poor fell significantly short of the average amount needed to lift them out of poverty in general and extreme poverty in particular. With the next sub-period from 1999-2000 to 2004-05, the same may be observed. The increase in average income of the poorest of the poor fell short of the increase in average income of the society by 42.89 percentage points during this period, while the shortfalls in the poverty gap and severity of poverty were 78.31 and 81.72 percentage points, respectively, during the previous period. As a result, this period's growth was more anti-poor than the preceding period's. However, from 2004-05 to 2010-11, the income of the poorest in the lowest decile class rose by 43.04 percent, which was 18.90 percentage points greater than the whole economy's average income growth. Similarly, we found that the poorest of the poor experienced a 24.19 and 10.24 percentage point increase in poverty gap and severity of poverty, respectively. As a result, on the scale of all three poverty indexes, this era demonstrated that growth was pro-poor. The year 2010-11 is notable because the average

income of the lowest has increased by 19.97 percentage points faster than the average income growth. This result indicates that growth has been pro-poor throughout this time. However, when we look at the poverty gap and the squared poverty gap, we can find that there is a difference of 1.04 and 4.09 percentage points, respectively, indicating that growth has not been beneficial to the ultra-poor. Though growth has been pro-poor in general throughout this time, it does not assist the ultra-poor and, in fact, works against them. An examination of the changes in the economy's average income and that of the poorest of the poor throughout the full survey period, which spans 1995-96 to 2015-16, reveals that growth was not pro-poor for those in the lowest decile classes. We can see that, when compared to the rise of average income for the economy as a whole, the PEGR for headcount ratio, poverty gap, and severity of poverty for those in the lowest decile class grew by 17.69, 10.69, and 23.79 percentage points, respectively. This demonstrates that, over this time, growth has not been pro-poor for those on the lower income scale, even while everything has been worse for the ultra-poor.

#### THE PRO-POOR GROWTH ANALYSIS AMONG VULNERABLE SOCIAL GROUPS

From this perspective, each vulnerable socioeconomic group is subjected to a cascade investigation from the overall poverty and pro-poor growth analysis. The fundamental rationale behind this was that a broad awareness of poverty and pro-poor growth did not ensure a detailed understanding of which groups were disproportionately affected by poverty reduction policies. As a result, the study of poverty cascading the pro-poor growth focused each from the five socioeconomic categories that were considered susceptible. Children, women, the elderly, the disabled, and those working in the informal economy are among these categories. Following that, the poverty and pro-poor growth of each vulnerable group is assessed, taking into consideration overall pro-poor growth as evaluated by Ravallion and Chen (2003), as well as the influence of pro-poor policies on the poorest part as measured by Poverty Equivalent Growth Rate. This section examines poverty and pro-poor analyses as a

whole.

**Pro-Poor Growth among Vulnerable Children**

Table 3 shows that overall income growth rates for households with one or more children increased during all transitional periods. That is, the overall income rise was

observed from 1995-1996 to 2015-2016. In comparison to past transitional periods, the transition from 2010-2011 to 2015-2016 had the highest economic growth rate, while the transition from 1995-1996 to 1999-2000 had the lowest.

**Table 2: Pro-Poor Growth among Vulnerable Children**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
Growth rate(g)	11.23	50.69	21.17	100.35	306.90
The Pro-Poor Growth among the Poorest at the Lowest Decile					
Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	6.69	-15.76	48.48	120.21	286.29
PEGR - g	-4.54	-66.45	27.31	19.86	-20.61
Poverty Gap - P1 ( $\alpha=1.00$ ); based on Absolute Poverty Lines					
PEGR index	5.18	-129.66	46.85	100.66	292.81
PEGR - g	-6.05	-180.35	25.68	0.31	-14.09
The severity of poverty - P2 ( $\alpha=2.00$ ); based on Absolute Poverty Lines					
PEGR index	5.42	-45.18	32.68	96.75	299.34
PEGR - g	-5.81	-95.87	11.51	-3.61	-7.57

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

Table 3 demonstrates that between 1995-1996 and 1999-2000, the average income of families with vulnerable children in the lower decile decreased by 4.54 percentage points, compared to the average income growth. The same can be said for the poverty gap and severity of poverty, with 6.05 and 4.81 percentage points, respectively, as the shortfall. As a result, throughout this time period, the growth was not pro-poor. During the years 1999-2000 to 2004-2005, the disparity between the vulnerable children's growth rate and the average growth rate of income was 66.45, 180.35, and 95.87 percentage points in the case of headcount poverty, poverty gap, and severity of poverty, respectively. However, during 2004-2005 and 2010-2011, as well as 2010-11 and 2015-16, the poor's income grew faster than the average. As a result, during both periods, growth was pro-poor in terms of both the poverty ratio and the poverty gap. However, in the case of severe poverty, it was pro-poor only from 2004-05 to 2010-11, with income growth for those in severe poverty being lower than the average from 2010-11 to 2015-16. As a result, people in extreme poverty did not benefit from this

time. The pro-poorness of growth attained in the previous two eras was insufficient to compensate for the loss of income growth for the poorest. Hence, the entire period i.e. from 1995-96 to 2015-16 turns out to be pro-poor neither in the case of headcount index nor for the poverty gap and severe poverty. When evaluated in terms of poverty ratio, poverty gap, and severity of poverty, the average growth of income of poor families with children was 20.61, 14.09, and 7.57 percentage points lower than the general average growth of income of all families with children over this time period. This demonstrates that none of these indicators had been pro-poor during the whole period.

**Pro-Poor Growth among Vulnerable Women:**

Table 4 shows that total income growth rates for women of all socioeconomic groups were positive during all survey years. From 2010-2011 to 2015-2016, this group's income grew at the fastest pace (139.42 percent), whereas on other hand it grew at the slowest rate (11.66 percent) from 1995-1996 to 1999-2000.

**Table 3: Pro-Poor Growth among Vulnerable Women Group**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
Growth rate(g)	11.66	31.54	26.70	139.42	345.53
Pro-Poor Growth among the Poorest at the Lowest Decile					
Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	-1.09	-6.08	59.25	159.21	326.30
PEGR - g	-12.74	-37.62	32.55	19.79	-19.23
Poverty Gap - P1 ( $\alpha=1.00$ ); based on Absolute Poverty Lines					
PEGR index	-1.97	-40.34	50.51	138.04	338.52
PEGR - g	-13.63	-71.88	23.81	-1.37	-7.02
The severity of poverty - P2 ( $\alpha=2.00$ ); based on Absolute Poverty Lines					
PEGR index	-2.85	-36.55	36.25	135.52	343.05
PEGR - g	-14.51	-68.09	9.55	-3.90	-2.49

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

Table 4 indicates that the poorest women's income grew at a negative rate from 1995-96 to 1999-2000, and then again from 1999-2000 to 2004-05. As a result, development throughout these periods was not pro-poor for vulnerable women. This has been true for all poverty indicators as well. In the years 1995-1996 to 1999-2000, the poorest women's income growth lagged behind the general growth of this group by 12.74, 13.63, and 14.51 percentage points, respectively, when evaluated by headcount, poverty gap, and severity of poverty. During the years 1999-2000 to 2004-2005, the deficit grew to 37.62, 71.88, and 68.09 percentage points, respectively. However, from 2004-05 to 2010-11, growth was pro-poor for vulnerable women on all indices of poverty, since the income growth of the poorest was larger than the average increase of women's income. However, when measured by head count poverty (which is 19.79 percentage points), the income growth rate from 2010-2011 to 2015-2016 was higher (by 1.37 and 3.9

percentage points, respectively), while when measured by poverty gap and severity of poverty, it was lower (by 1.37 and 3.9 percentage points, respectively). Similarly, when we consider the whole research period, from 1995-96 to 2015-16, we can conclude that growth was not pro-poor for vulnerable women, since the poorest women's income growth stayed below the average growth rate. Though the disparity has narrowed from 19.23 percentage points in the head count poverty ratio to 7.02 and 2.49 percentage points in the poverty gap and severity of poverty, respectively.

#### Pro-Poor Growth among Vulnerable Older People

Table 5 demonstrates that this group has had an increase in income throughout the course of the research. The greatest rate of income increase was 134.08 percent from 2010-11 to 2015-16, while the lowest rate of income growth for this socioeconomic category was 5.24 percent from 1999-2000.

**Table 4: Pro-Poor Growth among Vulnerable Older People**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
<b>Growth rate(g)</b>	20.44	5.24	30.82	134.08	288.17
<b>Pro-Poor Growth among the Poorest at the Lowest Decile</b>					
Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	0.15	-9.38	45.27	158.26	281.37
PEGR - g	-20.30	-14.62	14.45	24.18	-6.80
<b>Poverty Gap - P1 (<math>\alpha=1.00</math>); based on Absolute Poverty Lines</b>					
PEGR index	1.33	-56.98	51.99	135.25	282.26
PEGR - g	-19.11	-62.22	21.17	1.17	-5.92
<b>The severity of Poverty - P2 (<math>\alpha=2.00</math>); based on Absolute Poverty Lines</b>					
PEGR index	1.92	-54.06	38.42	131.49	286.02
PEGR - g	-18.53	-59.30	7.60	-2.59	-2.16

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

As with children and women, development for this socioeconomic category did not favor the poor throughout the first two periods, namely 1995-1996 to 1999-2000 and 1999-2000 to 2004-05. In Table 5, it is clear that the income of older people in the lowest decile rose at a slower rate than the group's average income growth. In the years 1995-96 to 1999-2000, this deficiency was calculated to be 20.30, 19.11, and 18.53 percentage points when evaluated on headcount level, poverty gap, and severe poverty, respectively. This shortfall decreased to 14.62 percentage points in terms of headcount ratio from 1999-2000 to 2004-05, but grew to 62.22 and 59.30 percentage points in terms of poverty gap and severe poverty, respectively. Except for individuals in extreme poverty from 2010-2011 to 2015-2016, the next two periods turned out to be pro-poor. In the same year, the income growth of older individuals in severe poverty fell 2.59 percentage points short of the typical growth of income for this group. However, when we look at the income increase for the whole research period, from 1995-1996 to 2015-2016, we see that the rise was not pro-poor for the vulnerable older people. As assessed by poverty ratio,

poverty gap, and severe poverty, the income of the poor in this category has increased at a slower pace than the average growth of income by 6.8, 5.92, and 2.16 percentage points, respectively.

#### Pro-Poor Growth among Vulnerable Disabled People.

Table 6 shows the pro-poorness of growth in relation to this group. Except for the period 1995-96 to 1999-2000, when the average income of this group decreased by 57.47 percent, the table indicates that this group had positive growth for all of the periods. While the negative rate for headcount poverty ratio (-36.49 percent), poverty gap (-3.17 percent), and severe poverty (-0.84 percent) was smaller, it revealed that income growth was pro-poor. It indicates and throughout this period of falling income, the poorest members of this group's income dropped at a slower pace than the group's overall income. However, although income growth was positive for the whole group in the next year, the poorest section saw negative growth on all measures of poverty, indicating that growth during this period was anti-poor.

**Table 5: Pro-Poor Growth among Vulnerable Disabled People**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
Growth rate(g)	-57.47	49.63	10.26	148.00	74.01
Pro-Poor Growth among the Poorest at the Lowest Decile Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	-36.49	-4.73	39.00	154.43	86.82
PEGR - g	20.97	-54.36	28.75	6.43	12.81
Poverty Gap - P1 ( $\alpha=1.00$ ); based on Absolute Poverty Lines					
PEGR index	-3.17	-43.54	41.20	143.59	94.93
PEGR - g	54.30	-93.17	30.94	-4.41	20.92
The severity of Poverty - P2 ( $\alpha=2.00$ ); based on Absolute Poverty Lines					
PEGR index	-0.84	-38.28	26.08	141.26	79.50
PEGR - g	56.63	-87.91	15.83	-6.73	5.49

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

Except for individuals in extreme poverty from 2010-2011 to 2015-2016; however, in Table 6 the next two periods turned out to be pro-poor. During this period of transition, the income growth of handicapped people in extreme poverty lagged behind the national average by 6.73 percentage points. However, when we look at income growth across the whole research period, from 1995-1996 to 2015-2016, we see that the rise has been pro-poor for vulnerable disabled people. As assessed by poverty ratio, poverty gap, and severe poverty, the income of the poor in this category has increased at a faster pace than the average growth of income by 12.81,

20.92, and 5.49 percentage points, respectively.

#### Pro-Poor Growth among those Engaged in Informal Sectors

Table 7 shows the impact of income increase on the lowest section of this particular group during the research period. The table indicates that the income of employees in the informal sector has increased at a positive rate throughout the entire phase, with the maximum growth of 142.93 percent from 2010-2011 to 2015-2016 and the lowest growth of 11.85 percent from 2004-05 to 2010-11.

**Table 6: Pro-Poor Growth among the Group of those Engaged in Informal Sectors**

Periods	1995-96 to 1999-2000	1999-2000 to 2004-05	2004-05 to 2010-11	2010-11 to 2015-16	1995-96 to 2015-16
Growth rate(g)	13.71	34.15	11.85	142.93	314.50
Pro-Poor Growth among the Poorest at the Lowest Decile Headcount - P0 ( $\alpha=0.0$ ); based on Absolute Poverty Lines					
PEGR index	-0.10	-3.45	33.00	160.11	301.39
PEGR - g	-13.81	-37.60	21.15	17.18	-13.10
Poverty Gap - P1 ( $\alpha=1.00$ ); based on Absolute Poverty Lines					
PEGR index	0.48	-43.84	42.47	139.68	308.02
PEGR - g	-13.23	-77.99	30.62	-3.25	-6.47
The severity of Poverty - P2 ( $\alpha=2.00$ ); based on Absolute Poverty Lines					
PEGR index	0.83	-60.31	27.79	138.00	312.35
PEGR - g	-12.88	-94.46	15.94	-4.93	-2.15

Sources: DASP-Stata analysis of Ethiopian CSA's Surveys of HICE, Socio-Demographics, & Informal Sectors

As women and children groups; hence in the Table 7, the first two periods had not shown pro-poor growth for those engaged in the informal sector. From 1995-96 to 1999-2000, as well as from 1999-2000 to 2004-05, the income growth rate of the lowest informal sector employees was negative. As a result, development throughout these periods was not pro-poor for the vulnerable informal workers. This has been true for all poverty indicators as well. When evaluated by headcount, poverty gap, and severity of poverty, the growth of income of the poorest employees in the informal sector remained lower than the general growth of income of this group by 13.81, 13.23, and 12.88 percentage points,

respectively, from 1995-1996 to 1999-2000. During the years 1999-2000 to 2004-2005, the deficit grew to 37.60, 77.99, and 94.46 percentage points, respectively. However, from 2004-05 to 2010-11, growth was pro-poor for vulnerable employees in the informal sector on all indices of poverty, since the poorest's income growth was larger than the group's average increase. However, the income growth rate from 2010-2011 to 2015-2016 was greater only when assessed by headcount poverty (i.e., 17.18 percentage points), whereas it was lower by 3.25 and 4.93 percentage points when measured by poverty gap and severity of poverty, respectively. Similarly, when we consider the full research period, from

1995-96 to 2015-16, we can see that the increase has not been pro-poor for people working in the informal sector. This was due to the fact that the poorest people's incomes grew at a slower rate than the average. Despite the fact that this deficiency has decreased from 13.10 percentage points in the headcount poverty ratio to 6.47 and 2.15 percentage points in the poverty gap and severity of poverty, respectively, we can see that Ethiopian economic progress has not been pro-poor for the majority of the period.

### CONCLUSIONS AND RECOMMENDATIONS

To understand how pro-poor policies are affecting the poor in particular across time dimension; likewise, the issues of the degree of economic/income growth among vulnerable in Ethiopia's emerging regional states and the case of if the poorest gain more than the middle class from the country's economic growth. Moreover, the further issues like the types of measures, out of income growth and redistribution, contributed most to poverty reduction among the lowest sectors (vulnerable social groups) and the periods of economic growth in which the poorest people's income levels recover the most, and vice versa, were address in the following conclusion. From the full approach analysis of the pro poor growth, the study shows that the general income growth across all vulnerable social groups, except the disabled group on 1995-96 to 1999-2000, were increased in through the entire transition periods. During the same transition periods i.e, 1995-96 to 1999-2000, 1999-2000 to 2004-05, and 2010-11 to 2015-16, the growth of pro poor incomes across vulnerable social groups had shown a tremendous decline. These declines rendered these periods anti-poor, allowing non-poor people to benefit from overall income increases while making the poorest of the poor further poorer. Only from 2004-05 to 2010-11 than during all of these transitional times that did growth help the poor over the non-poor in all poverty scales. However, from 2010-11 to 2015-16, there was a pro-poor income growth effect that benefited the poorest people more than the non-poor, but only on a headcount and poverty gap level. To recommend based on analytical outcomes; correspondingly, as seen from the economic growth of emerging regional states were not pro-poor in the lower segment of the poorest vulnerable, and the few periods that show pro-poor growth only work to reduce the number of poor; in this form, national poverty reduction policies need to be revised and address more particularly the poorest of the poor in loudest term.

### REFERENCE

[1] Admassie, A., & Abebaw, D. (2014). Rural Poverty and Marginalization in Ethiopia: A Review of Development Interventions. In J. von Braun & F. W. Gatzweiler (Eds.), *Marginality: Addressing the Nexus of Poverty, Exclusion and Ecology* (pp. 269–300). Springer Netherlands.

[2] Angel, S., Heuberger, R., & Lamei, N. (2018). Differences Between Household Income from Surveys and Registers and How These Affect the Poverty Headcount: Evidence from the Austrian SILC. *Social Indicators Research*, 138(2), 575–603.

<https://doi.org/10.1007/s11205-017-1672-7>

[3] Atkinson, Anthony B. (1970). On the measurement of inequality. *Journal of Economic Theory*, 2(3), 244–263.

[4] Atkinson, Anthony Barnes. (1987). On the measurement of poverty. *Econometrica: Journal of the Econometric Society*, 749–764.

[5] Bachelet, M. (2012). Social protection floor for a fair and inclusive globalization. International Labour Office, Geneva.

[6] Barrientos, A., & Hulme, D. (2016). Social protection for the poor and poorest: Concepts, policies and politics (1st Edition). Palgrave Macmillan, New York.

[7] Baulch, B., & Hoddinott, J. (2000a). Economic mobility and poverty dynamics in developing countries. *The Journal of Development Studies*, 36(6), 1–24.

[8] Baulch, B., & Hoddinott, J. (2000b). Economic mobility and poverty dynamics in developing countries. *The Journal of Development Studies*, 36(6), 1–24.

[9] Baulch, R., & McCulloch, N. (2000). Tracking pro-poor growth. ID21 Insights, 31.

[10] Bigsten, A., & Shimeles, A. (2004). Prospects for pro-poor growth in Africa (No. 2004/42). WIDER Research Paper.

[11] Bossuyt, A. (2017). Reaching the Poor: Synergies and complementarities of the Productive Safety Net Programme and the Community Based Health Insurance. UNICEF Ethiopia, Addis Ababa, 110–134.

[12] Bishop, J. A., & Formby, J. P. (1994). A dominance evaluation of distributions of income and the benefits of economic growth. In *Contributions to Economic Analysis* (Vol. 223, pp. 65–103). Elsevier.

[13] Bourguignon, François. (2017). The globalization of inequality: Vol. Volume 02. Princeton University Press.

[14] Burchi, F., Malerba, D., Rippin, N., & E Montenegro, C. (2019). Comparing Global Trends in Multidimensional and Income Poverty and Assessing Horizontal Inequalities. German Development Institute.

[15] Chen, S., & Ravallion, M. (2003a). Hidden impact? Ex-post evaluation of an anti-poverty program. The World Bank.

[16] Chen, S., & Ravallion, M. (2003b). Household welfare impacts of China's accession to the World Trade Organization. World Bank Policy Research Working Paper, 3040.

[17] Cook, S., & Pincus, J. (2014a). Poverty, Inequality and Social Protection in Southeast Asia: An Introduction. *Southeast Asian Economies*, 31(1), 1. <https://doi.org/10.1355/ae31-1a>

[18] Cook, S., & Pincus, J. (2014b). Poverty, inequality and social protection in Southeast Asia: An introduction. *Journal of Southeast Asian Economies (JSEAE)*, 31(1), 1–17.

[19] Cornwall, A., & Brock, K. (2005). What do buzzwords do for development policy? A critical look at 'participation', 'empowerment' and 'poverty reduction.' *Third World Quarterly*, 26(7), 1043–1060.

[20] CSA. (2016a). Central Statistical Agency of Ethiopia | Data and Statistics—Knoema.com. Knoema. <https://knoema.com/atlas/sources/Central-Statistical-Agency-of-Ethiopia>

[21] CSA. (2016b). Ethiopian Central Statistical Agency's Survey Reports. <http://www.csa.gov.et/survey-report>

[22] Dalton, H. (1920). The measurement of the inequality of incomes. *The Economic Journal*, 30(119), 348–361.

[23] Dasgupta, P. (1995). The population problem: Theory and evidence. *Journal of Economic Literature*, 33(4), 1879–1902.

[24] Davidson, R., & Duclos, J.-Y. (2000). Statistical inference for stochastic dominance and for the measurement of poverty and



- inequality. *Econometrica*, 68(6), 1435–1464.
- [25] Dercon, S., & Pramila, K. (1998). Changes in poverty in rural Ethiopia 1989–1995: Measurement, robustness tests and decomposition.
- [26] Dercon, S., & Pramila, K. (1998). Changes in poverty in rural Ethiopia 1989–1995: Measurement, robustness tests and decomposition. CES–Discussion paper series (DPS) 98.19.
- [27] Duclos, J.-Y., & Araar, A. (2007). Poverty and equity: Measurement, policy and estimation with DAD (Vol. 2). Springer Science & Business Media.
- [28] Duclos, J.-Y., Araar, A., & Giles, J. (2006). Chronic and Transient Poverty: Measurement and Estimation, with Evidence from China.
- [29] Duclos, J.-Y., & Makdissi, P. (2004). Restricted and unrestricted dominance for welfare, inequality, and poverty orderings. *Journal of Public Economic Theory*, 6(1), 145–164.
- [30] ENPC. (2017). Ethiopia’s Progress Towards Eradicating Poverty: An Interim Report on 2015/16 Poverty Analysis Study (p. 32) [Economics Performances]. Ethiopian National Planning Commission. <http://www.csa.gov.et/survey-report/category/357-poverty-analysis?download=901:2016-poverty-interim-report-1>
- [31] Formby, J. P. (1991). Incomplete information, income redistribution and risk averse. *Public Choice*, 68, 41–55.
- [32] Foster, J. E., & Shorrocks, A. F. (1988). Poverty orderings and welfare dominance. In *Distributive Justice and Inequality* (pp. 91–110). Springer.
- [33] Foster, J., Greer, J., & Thorbecke, E. (1984). A class of decomposable poverty measures. *Econometrica: Journal of the Econometric Society*, 761–766.
- [34] Foster, J., Greer, J., & Thorbecke, E. (2010). The Foster–Greer–Thorbecke (FGT) poverty measures: 25 years later. *The Journal of Economic Inequality*, 8(4), 491–524.
- [35] Geda, A., Shimeles, A., & Weeks, J. (2009). Growth, poverty and inequality in Ethiopia: Which way for pro-poor growth? *Journal of International Development: The Journal of the Development Studies Association*, 21(7), 947–970.
- [36] Goddard, T., & Myers, R. R. (2017). Against evidence-based oppression: Marginalized youth and the politics of risk-based assessment and intervention. *Theoretical Criminology*, 21(2), 151–167.
- [37] Hagenaars, A. J. (2017). The definition and measurement of poverty. In *Economic Inequality and Poverty: International Perspectives* (pp. 148–170). Routledge.
- [38] Hailu, D., & Northcut, T. (2013). Ethiopia’s social protection landscape: Its surface and underlying structures. *Int. Soc. Work*, 56(6), 828–846. <https://doi.org/10.1177/0020872812441646>
- [39] Hudson, M., Netto, G., Noon, M., Sosenko, F., de Lima, P., & Kamenou-Aigbekaen, N. (2017). Ethnicity and low wage traps: Favouirism, homosocial reproduction and economic marginalization. *Work, Employment and Society*, 31(6), 992–1009.
- [40] Hulme, D., & McKay, A. (2013). Identifying and Measuring Chronic Poverty: Beyond Monetary Measures? In *The many dimensions of poverty* (pp. 187–214). Springer.
- [41] IMF. (2018). The Federal Democratic Republic of Ethiopia and the IMF. IMF. <https://www.imf.org/en/Countries/ETH>
- [42] Kakwani, N., & Pernia, E. M. (2000). What is pro-poor growth? *Asian Development Review*, 18(1), 1–16.
- [43] Kakwani, N., & Son, H. H. (2008). Poverty equivalent growth rate. *Review of Income and Wealth*, 54(4), 643–655.
- [44] Kiringai, J. et al. (2016). Ethiopia Public Expenditure Review (pp. 120–160). World Bank. <http://documents.worldbank.org/curated/en/176471468178145744/Ethiopia-publicexpenditure-review>
- [45] Kiringai, J. W., Geiger, M. T., Bezawagaw, M. G., & Jensen, L. (2016). Ethiopia public expenditure review. World Bank, Addis Ababa.
- [46] Little, D. (2018). *The Paradox of Wealth and Poverty: Mapping the Ethical Dilemmas of Global Development*. Routledge. <https://doi.org/10.4324/9780429496028>
- [47] Mohammed, J., & Haji, J. (2014). Dynamics of Poverty among Smallholder Farmers in Ethiopia. *Dynamics*, 5(24).
- [48] MoLSA. (2014). National Social Protection Policy of Ethiopia. Ministry of Labour and Social Affairs, Federal Democratic Republic of Ethiopia. <http://www.molsa.gov.et/web/guest/-/national-social-protecti-onpolicy?inheritRedirect=true&redirect=%2F>
- [49] MoLSA. (2016). National Social Protection Strategy of Ethiopia. Federal Republic of Ethiopia, Ministry of Labour and Social Affairs.
- [50] Muñoz-Laboy, M., Martínez, O., Guilamo-Ramos, V., Draine, J., Garg, K. E., Levine, E., & Ripkin, A. (2017). Influences of economic, social and cultural marginalization on the association between alcohol use and sexual risk among formerly incarcerated Latino men. *Journal of Immigrant and Minority Health*, 19(5), 1073–1087.
- [51] OECD. (2017). Social Protection in East Africa: Harnessing the Future (pp. 543–567). Organization for Economics Cooperations and Development. <https://dx.doi.org/10.1787/9789264274228-en>
- [52] Ravallion, Martin. (2004a). Competing concepts of inequality in the globalization debate. The World Bank.
- [53] Ravallion, Martin. (2004b). Pro-poor growth: A primer. The world bank.
- [54] Ravallion, M. (2004). Pro-poor growth: A primer. Available at SSRN 610283. <https://ssrn.com/abstract=610283>
- [55] Ringen, S. (1988). Direct and indirect measures of poverty. *Journal of Social Policy*, 17(3), 351–365.
- [56] Rugumamu, S. (2017). Globalization and Marginalization in Euro-African Relations in the Twenty-First Century. In *Globalization, the Third World State and Poverty-Alleviation in the Twenty-First Century* (pp. 31–46). Routledge.
- [57] Sen, A. (1987). The standard of living: The lecture II on lives and capabilities. *The Standard of Living*, 20–38.
- [58] Seth, S., & Yalonzky, G. (2018). Assessing Deprivation with Ordinal Variables: Depth Sensitivity and Poverty Aversion. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3266502>
- [59] Stanton, D. (1973). Determining the poverty line. *Social Security Quarterly*, 18–32.
- [60] tekgüç, H. (2018). Declining Poverty and Inequality in Turkey: The Effect of Social Assistance and Home Ownership. <https://doi.org/10.1080/13608746.2018.1548120>
- [61] Todaro, M. P., & Smith, S. C. (2012). *Economic development* (11th ed). Boston, Mass Addison-Wesley. <https://trove.nla.gov.au/work/8304630>
- [62] UNDP, U. (2018). UNDP’s Human Development Indices and Indicators 2018 Statistical Update [Statistical Update]. United Nations Development Programme (UNDP). [http://hdr.undp.org/sites/default/files/2018\\_human\\_developm-ent\\_statistical\\_update.pdf](http://hdr.undp.org/sites/default/files/2018_human_developm-ent_statistical_update.pdf)
- [63] UN. (2018). Guide on Poverty Measurement. UN. <https://doi.org/10.18356/b6557c18-en>
- [64] Van Genugten, W., & Perez-Bustillo, C. (2001). The poverty

- of rights: Human rights and the eradication of poverty. Zed Books.
- [65] World Bank. (2015a). Ethiopia Poverty Assessment (pp. 410–542) [Poverty Assesment]. World Bank. <http://documents.worldbank.org/curated/en/131011468247457565/Ethiopia-Povertyassessment>
- [66] WB. (2017). International Development Association Project Appraisal Document on a Proposed Grant in the Amount of SDR 426.3 million (US\$ 600 million equivalent) to the Federal Democratic Republic of Ethiopia for the Ethiopia Rural Safety Net Project (p. 210). World Bank. <http://documents.worldbank.org/curated/en/830381505613638420/pdf/project-appraisaldocument-pad-P163438-EU-edits-for-Board-version-08252017.pdf>
- [67] WB. (2018). Ethiopia—Urban Productive Safety Net Project (p. 278). World Bank. <http://documents.worldbank.org/curated/en/216981467304914217/Ethiopia-UrbanProductive-Safety-Net-Project>
- [68] Yaqub, S. (2000a). Intertemporal welfare dynamics: Extent and causes. Globalization, New Opportunities, New Vulnerabilities Workshop at the Brookings Institution in Washington, DC.
- [69] Yaqub, S. (2000b). Poverty dynamics in developing countries (Vol. 16). Institute of Development Studies Brighton.
- [70] Zheng, B. (1997). Aggregate poverty measures. *Journal of Economic Surveys*, 11(2), 123–162.