

# Economic Growth and Its Pro-Poorness in Zambia 2006-2015: To What Extent?

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## Abstract

Economic growth and its impact on economies and citizens has been widely debated by economists for some time with its key attributes including the fact that the benefits of such growth trickle down to all sections of society, especially the poor. This trickle-down hypothesis has come into question in recent times with prominent authors proposing a pro-poor measure of economic growth. Using the methodology developed by Kakwani et al. (2004) applied to the Zambia Living Conditions. Monitoring Surveys of 2006, 2010 and 2015, this paper empirically executes the measurement of the pro-poorness of economic growth in Zambia in the period 2006-2015. We find that economic growth in Zambia has not been pro-poor based on the poverty equivalent growth rate criteria. Despite positive economic growth being recorded over this period and the poverty rates declining slowly, the poor in Zambia derived proportionally less benefits from such growth than the non-poor. Growth has not impacted the poor in a significant way, a situation which calls for a robust assessment of the composition of the poor and their potential roles in the economic growth process to appropriately design interventions which yield dividends for this group of people in as far as poverty reduction is concerned.

## Keywords

Economic Growth, Poverty, Pro-Poor Growth Measurement, Zambia

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## 1. Introduction

Economic growth and its impact on economies and citizens has been widely debated by economists for some time and as they observe, one of its key attributes is the fact that the benefits of such growth trickle down to all sections of society, especially the poor (Ray, 1998; Adams, 2004; Kanbur, 2005). While it seems plausible to postulate that strong economic growth is necessary and has the po-

tential to facilitate inclusive growth and poverty reduction, some studies such as Ravallion & Chen (2003), Kakwani & Pernia (2000), and Kakwani et al. (2004) question the “trickle-down” phenomenon of economic growth and whether indeed economic growth is sufficient to reduce poverty in countries. Although the findings of some studies such as Dollar and Kray (2002) confirm that policies and institutions which are linked with higher growth also proportionately benefit the poor, the pro-poorness of economic growth in a country needs to be interrogated further to ascertain the level of benefits citizens derive from such growth. As Berg and Ostry (2011) contend, for the growth to be considered sustainable and effective in reducing poverty, it is necessary that it is inclusive. It seems desirable, then, that economic growth which is pro-poor and inclusive must be seen to be making a positive impact on the levels of poverty affecting citizens. This aspect of economic growth impacting the poor in a positive way has also been observed by many researchers including Araar et al. (2009). Although economic growth is a necessary condition for poverty reduction, its efficacy in making a significant dent on poverty has raised questions deserving attention.

Indeed, as Kakwani et al. (2004) argue, economic growth along with its distribution has assumed a prominent role in developmental endeavours and development policy focus since the 1990s. Development efforts at global, continental, regional and national levels continue to place emphasis on poverty reduction. At the global level, this focus culminated in the formulation of the Millennium Development Goals (MDGs) in the year 2000 by world leaders (United Nations, 2000) and in more recent times the Sustainable Development Goals (SDGs) adopted in 2015 (United Nations, 2021) which represent renewed efforts and commitment to build on the work done during the MDGs period. Both the MDGs and SDGs represent a concerted drive to reduce and ultimately eliminate poverty from the face of the globe and take development endeavours to a different and higher level. The continental level has not been left out from these poverty reduction pursuits as the African Union (AU) has couched its continental development in the Agenda 2063 (African Union Commission, 2015) which espouses development and envisions a continent free of poverty and other impediments to the achievement of maximum potential by its citizens. A key vehicle being employed by authorities at the continental level in Africa to bring about “the Africa we want” is The New Partnership for Africa’s Development (NEPAD) framework (NEPAD, 2021). Similarly, leaders at the regional level have also encapsulated their quest to attain economic development in Southern Africa through the Southern African Development Community (SADC) Common Agenda (SADC, 2001) which is an earnest onslaught targeted at the elimination of poverty and other challenges affecting countries in the region.

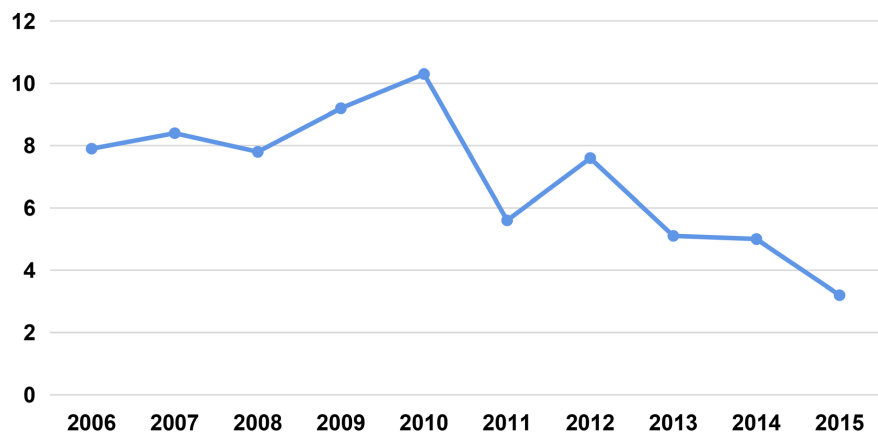
At national level, Zambia’s development blueprints such as the National Development Plans (Government of Zambia, 2011), Vision 2030 (Government of Zambia (2006a), Poverty Reduction Strategy Papers (Government of Zambia, 2002)

all place poverty reduction as a critical goal. While all these documents have well-elaborated strategies on ways to reduce poverty and some reduction in poverty rates has been recorded, a question which still begs an answer is whether these endeavours have really reduced poverty significantly for the poorest of the poor in Zambia. To what extent have the poor in Zambia benefited from the economic growth that has been recurred over the years? Despite figures in the public domain showing economic growth in Zambia being largely positive over the years, poverty rates continue to remain high. This situation leaves one to wonder as to the exact magnitude of the impact of such growth on the poor. This study is an attempt to answer this question and quantitatively compute the magnitude of the said relationship.

After the introduction, this paper is structured as follows: Section 2 discusses the trajectory of economic growth in Zambia from 2006 to 2015 with the related dynamics of poverty over the same period. Section 3 discusses the related literature on the pro-poorness of economic growth in Zambia. Section 4 presents the empirical evidence of the pro-poorness of economic growth in Zambia for the period 2006 to 2015 and discusses the results of the pro-poor measurements, with Section 5 winding up with the conclusion.

## 2. A Positive Trajectory of Economic Growth with High Poverty Levels 2006-2015

As indicated in the previous section, economic growth in Zambia over the years has been largely positive. For example, in the period 2006-2015 (**Figure 1**), Zambia recorded positive gross domestic product (GDP) growth rates, with the highest rate of 10.3 percent being posted in 2010. After 2010, except for 2012, the GDP growth trajectory began to decline. However, the growth rates remained above 3 percent and within the 3.2 percent to 5.6 percent range. According to the official sources (**Government of Zambia, 2006b**), the major factors responsible for the decline in the GDP growth rates in 2011 included output reduction in copper



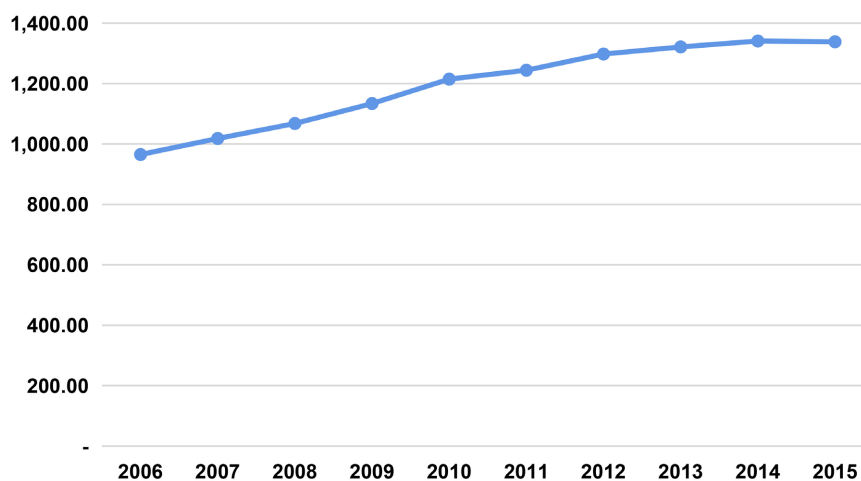
**Figure 1.** Zambia GDP growth rates (%), 2006-2015. Sources: **Central Statistical Office Zambia (2006-2019)**.

and cobalt due to electricity supply challenges and rehabilitation work. In 2013, agriculture output declined owing to poor rainfall and an outbreak of army worms while copper and gold production recorded declines in 2014 arising from shutdown at some key mines. This situation negatively impacted GDP growth in 2013. Unfavourable weather conditions resulting in challenges of hydro-electricity supply and reduced agriculture output were principally responsible for the GDP growth rate decline in 2015.

The positive economic growth was largely attributed to key sectors including construction, mining, manufacturing, electricity gas and water, transport, storage, and communication (Government of Zambia, 2007-2016). Despite the high GDP growth rates recorded, one realises that poverty in Zambia is pervasive and seems to be on the higher side over the years with a rural face (Figure 3) along and an urban dimension largely manifested in the working poor. Further, an examination of the GDP per capita which is a good indicator widely employed to measure the standard of living citizens enjoy in a country also presents a positive trend for the same period this study is interested in as shown in Figure 2.

This state-of-affairs where GDP growth rates are positive and the GDP per capita follows a similar trend seems to run counter to the trickle-down proposition which envisages benefits of economic growth to all sections of society, especially the poor. One is left wondering why there has not been a significant dent on poverty in Zambia despite the impressive rates of economic growth.

Poverty is one of the major problems affecting a large proportion of the population in Zambia and as earlier mentioned, with the hardest hit section being those residing in rural areas. According to the Central Statistical Office (2012), poverty in Zambia continues to be high at 60 percent and in some rural provinces the trend has been upward (World Bank, CSO, 2015). For example, rural poverty was recorded at 77.9 percent compared to urban poverty of 27.5 percent in 2010 (CSO, 2012). Previous figures for 2006 record rural poverty at 80.3 percent



**Figure 2.** GDP per capita (constant 2015 US\$) Zambia, 2006-2015. Source: World Bank (2021).

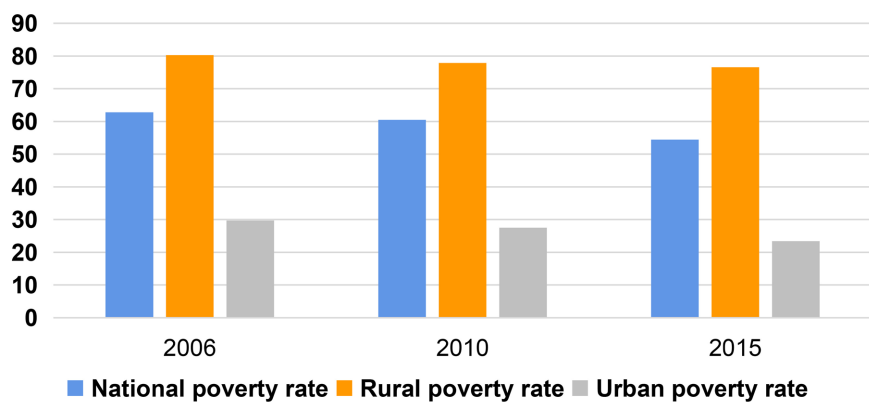
as compared to the urban situation of 29.7 percent. The [Government of Zambia \(2006a\)](#) has acknowledged the high levels of poverty which have triggered some actions on their part, stating that “the overall poverty rate in rural areas was 78 percent in 2004, slightly better than the 83 percent incidence prevailing during the period between 1998 and 1996; in contrast, the poverty rate in urban areas fluctuated at rates at least 25 to 40 percentage points lower than in the rural areas—53 percent, 56 percent and 46 percent over the same periods” ([Government of Zambia, 2006a](#)). Clearly, the hardest hit proportions of the population in as far as poverty is concerned are the rural dwellers. As [Figure 3](#) depicts, the poverty headcount in Zambia over the period 2006 to 2015 stands at more than 50 percent.

As we demonstrate in Section 4.2.3, the three classes of poverty measures, namely, headcount, income-gap and poverty severity each present an unfavourable picture. The dynamics of the poverty trends in Zambia over the study period 2006 to 2015 tell a story which is masked when one looks on the surface without drilling deep and delving into the empirics of the numbers presented by the Zambia Statistics Agency (ZamStats).

Examining the trajectory of pro-poor growth in Zambia, [Thurlow & Wobst \(2004\)](#) use a dynamic and spatially disaggregated economy-wide model linked to household survey data to gauge the potential for future poverty-reduction. Their findings indicate that returning to copper-led growth path is not pro-poor and that non-mining urban growth combined with diversification through an agriculture-led development strategy is likely to prove most pro-poor. Although their study sheds light on the interplay between economic growth and poverty in Zambia, it is silent on the measure of poverty based on a comparable consumption aggregate which this study contends is key to the measurement of poverty.

### 2.1. Literature on the Pro-Poorness of Economic Growth

The quantitative magnitude to which economic growth leads to a decline in poverty over time is our interest in this section of this study. This question is about



**Figure 3.** Poverty trends in Zambia (%), 2006-2015. Source: [Central Statistical Office Zambia \(2006-2019\)](#).

the dent which economic growth makes on poverty such that the poor benefit more than the non-poor from that growth, the pro-poorness of economic growth. Several studies underscore the need to carefully investigate the changes in poverty over time as economic growth unfolds. Researchers have argued and reaffirmed that economic growth can only be considered pro-poor if, arising from such growth, the poor derive benefit from it (Chemli & Smida, 2013). For Ravallion & Chen (2003), assessing the way gains or indeed losses from aggregate economic growth are distributed across households with respect to initial incomes or expenditures is crucial in determining the pro-poorness of economic growth or the lack of it. As Kakwani & Pernia (2000) argue, for any outcome to be considered pro-poor it must essentially benefit the poor more than the non-poor. They advocate for deliberate actions and measures to favour the poor more than the non-poor in the design of programmes and activities aimed at reduction of the incidence of poverty. It is their view that such measures should include adequate nutrition, child survival as well as quality and fulfilling lives as key outcomes of pro-poor growth. It is apparent from these studies that the issue of the poor benefiting more than the non-poor in determining the pro-poorness of economic growth is a crucial question.

One of the most prominent contributions in the estimation of the pro-poorness of growth is that by Ravallion & Chen (2003) who commence their analysis by defining a growth incidence curve which shows the growth rate trajectory for a specified quantile across quantiles ordered according to income. They come up with a measure termed as the mean growth rate for the poor by integration on the growth incidence curve which facilitates the determination of the pro-poorness of distributional changes associated with growth. Utilising data from China during the period 1990-1999, they find that the ordinary growth rate of household income per capita of 6.2% per annum was greater than the growth rate of the poorest percentile with a growth rate of 3% and less the growth rate for the richest percentile which was recorded at 10%. The study finds the growth for this period as benefiting more the non-poor than the poor and passes to be classified as not pro-poor. The study, however, finds an exception where growth is pro-poor in the period 1993-1996 with a pro-poor growth rate for the poorest percentile of 9.8% which is greater than the growth rate in the mean growth rate for the period of 8.2%. This paper begins to run into problems when it questions the efficacy of poverty lines which are critical ingredients in the measurement of not just poverty but also pro-poor growth. The paper seems to suggest that poverty lines do not provide much help in the measurement of poverty.

In the case of Araar et al. (2009), the departure point for their pro-poor growth analysis is the definitional framework developed by Duclos (2009) which demonstrates that a relative definition of pro-poorness qualifies a distributive change as pro-poor if the proportional change in the incomes of the poor is no less than some set parameter such as the growth rate in mean income or in a specific quantile like the median income. They aver that this approach is robust

and in tandem with that employed by [Kakwani & Pernia \(2000\)](#) and [Son \(2004\)](#) and facilitates the execution of pro-poorness of growth from the absolute and relative perspective. The approach also allows the determination criteria for the choice of poverty lines to distinguish the poor from the non-poor as well as the aggregation of the impact of growth on the poor. The study assesses the pro-poorness of economic growth by utilising data collected from the Mexico National Income and Expenditure Surveys of 1992, 1998, and 2004. The findings indicate strong statistical evidence of Mexican's growth being anti-poor between 1992 and 1998, absolutely pro-poor between 1998 and 2004 and between 1992 and 2004, and relatively pro-poor between 1992 and 2004 and between 1998 and 2004. They find that this suggests valuable and robust evidence of Mexico's distributional change during a period of marked economic instability and transformations.

More recent papers on pro-poor growth analysis, notably [Kakwani et al. \(2004\)](#), use a pro-poor growth measure called the "poverty equivalent growth rate" (PER) which accounts for both the extent of growth and the distribution of the benefits occasioned by growth to the poor and the non-poor. The PER takes a monotonicity axiom view of growth such that poverty reduction follows from a rise in the poverty equivalent growth rate. Utilising data from countries such as Korea, Thailand, and Vietnam, the findings indicate that Korea and Vietnam recorded a pro-poor growth trajectory in the 1990s (the period 1990 to 1999) but for Thailand, growth has largely not been pro-poor.

The study findings indicate that for Korea, the poverty equivalent growth rates were generally higher compared to the actual growth rates in Korea during the 1990s. The study shows that the PEGR was 9 per cent in 1996-97, when the annual growth rate was just 1.8 per cent during the same period. The poor benefited proportionally more than the non-poor from the growth recorded for the said period which translated into significant declines in the headcount ratio from 39.6 per cent in 1990 to 8.6 per cent in 1997 ([Kakwani & Pernia, 2000](#)). The study also demonstrates that in the 1992-97 period, the PEGRs for Vietnam were predominantly higher than the annual growth rates of per capita expenditure of 5.02 per cent for Vietnam. The PEGR ranged from 5.08 to 5.39, portraying a pro-poor growth pattern in which the benefits were skewed more towards the poor than the non-poor. The higher benefits applied to both the rural and urban areas. In the case of Thailand, the country experienced growth which was not pro-poor from 1988-92, despite the annual rate economic growth of almost 10 per cent. However, the situation changed during the 1992-96 which saw higher PEGRs than economic growth rates. The poor received proportionally more benefits than the non-poor, qualifying the growth as pro-poor.

In more recent work, [Ngakoli \(2014\)](#) employs a global approach which generates an index of pro-poor growth to execute an assessment of the pro-poorness of economic growth in the Republic of Congo over the period 2005-2011. The study executes an analysis of the effects of growth, inequality and welfare and



concludes that changes associated with increase in expenditure per capita contribute to reduction or alleviation of poverty and consequently make growth qualify to be deemed pro-poor. For instance, the study findings indicate that the effect resulting from a growth increase in expenditure per capita of 1% leads to a decline of 0.1438% of the poverty ratio. The total elasticity of poverty is  $-0.3018$ , meaning a 1% rise in real expenditures per capita results in a 0.3018% decrease in the poverty incidence. From this scenario, the study observes that the pro-poor growth index is positive and greater than unity 2.1408 which demonstrates that growth benefits the poor more than the non-poor. The growth is then considered pro-poor for the period of the study. Although this study makes valuable conclusions of pro-poorness of growth in the Congo, this is done at national level and does not fully account for regional dynamics of the impact of growth on the poor and the benefits they derive from such growth.

## 2.2. The Pro-Poorness of Economic Growth in Zambia: Empirical Evidence From 2006-2015

In this section, we execute quantitative analysis of the pro-poorness of economic growth in Zambia over the period 2006-2015. In performing these computations, we employ the STATA 15 econometric package to test the pro-poorness of economic growth relying on the method proposed by Kakwani et al. anchored on a [Kakwani et al. \(2004\)](#).

### 2.2.1. The Data

This study draws heavily on nationally representative survey data collected by the Zambia Statistics Agency (ZamStats, formerly the Central Statistical Office (CSO), in the Living Conditions Monitoring Surveys (LCMS) for 2006, 2010 and 2015 to estimate poverty variables namely, the poverty headcount, income gap ratio, poverty severity index and the pro-poorness of economic growth in Zambia. The data used for this study was collected in the surveys by the CSO using the two-stage sampling technique from all the 10 provinces of Zambia. These surveys collect data on similar topics on food and non-food commodities every five years by asking the same questions on household expenditure, a proxy for household consumption, on the two categories of commodities. The LCMS also ask other questions to facilitate the monitoring of the living conditions of the population in Zambia which are outside the scope of this study. In the study, we deploy substantial effort to come up with a measure of poverty based on a comparable consumption aggregate. We opt to utilise consumption in the computations as studies by reputable institutions and authors including the CSO and [World Bank \(2015\)](#), [Deaton & Zaidi \(2002\)](#), and [Haughton & Khandker \(2009\)](#) demonstrate the use of consumption as a welfare indicator to be more reliable and accurate as a measure of long-term living standards than income. The comparable consumption aggregate we compute incorporates both food and non-food items. To make data comparable for the three time periods of our interest (2006, 2010 and 2015), we impute values for expenditure on consumption items



the LCMS reports in 2015 but are missing in the LCMS reports of 2006 and 2010. We convert all expenditure on consumption items reported weekly to monthly figures to facilitate comparability. We use the consumer price index (CPI) for 2009 as the base year to adjust and make comparable consumption expenditure in all the three time periods of 2006, 2010 and 2015. We employ 2009 as this is the base year used by the national statistical authorities in Zambia.

### **2.2.2. Estimating the Pro-Poorness of Economic Growth in Zambia**

There are several methods developed by eminent economists and researchers including Kakwani & Pernia (2000), Kakwani et al. (2004) and Ravallion & Chen (2003) and further popularised by Duclos & Araar (2006) and Araar & Duclos (2013) in use for the measurement of the pro-poorness of economic growth in a country. As mentioned earlier this study relies on the Kakwani et al. (2004) method for the estimation of pro-poor growth.

Employing the Stata Version 15 econometric package, this study quantitatively estimates the pro-poorness of economic growth in Zambia over the period 2006-2015 using the Kakwani et al. (2004) method. The method developed by Kakwani et al. (2004) computes a poverty equivalent growth rate (PEGR) which facilitates the estimation of pro-poor economic growth. This study elects to use this method which relies on one of the most celebrated econometric methods of estimating poverty, the Foster-Greer-Thorbecke (Foster, Greer, & Thorbecke, 1984) class of poverty measures. The FGT method computes the poverty headcount, the income-gap as well as the poverty severity index. The Kakwani et al. (2004) method builds on the FGT and estimates the PEGR which it uses and which this study adopts as a benchmark to assess the pro-poorness of economic growth. Using nationally representative LCMS data collected by the Zambia Statistics Agency from all the provinces in Zambia and as indicated earlier, we use the Stata Version 15 econometric package to compute the PEGR for Zambia to determine the pro-poorness of economic growth recorded over the period of this study, 2006-2015. The criteria for pro-poorness of growth is that if the PEGR estimated is greater than the actual growth rate recorded during a period, then such growth is judged as being pro-poor. Conversely, if the PEGR is less than the growth for such a period, then such growth is not pro-poor.

### **2.2.3. Empirical Results of Growth Pro-poorness Measurement**

We employ Stata 15 using the poverty line of K214 for 2015 determined by ZamStats and our computed comparable consumption equivalent variable (which is a measure of per capita expenditure) to estimate the poverty headcount, poverty gap ratio and poverty severity index for the years 2006, 2010 and 2015 as well as the poverty equivalent growth rate and the actual growth rate for the same years. The key output from these estimates is the measurement of the pro-poorness of economic growth in Zambia from 2006-2015.

Our estimations indicate the poverty headcount for 2006 at 0.790, income gap ratio at 0.486 and poverty severity index at 0.344. The 2010 poverty headcount,

income gap ratio and poverty severity index are 0.608, 0.298, and 0.179, respectively. For 2015, our estimates produce a poverty headcount of 0.553, an income gap ratio of 0.281 and a poverty severity index of 0.175 as shown in **Table 1**.

We then compute the poverty equivalent growth rate (PEGR) which is the measure this study relies on to determine the pro-pooriness of economic growth, As shown in **Table 2**, we find that the PEGR for Zambia during the period 2006-2015 stands at 0.082 and is lower than the actual growth rate estimated at 0.956. The computations also estimate two other pro-poor indices, namely the Ravallion & Chen (2003) index and the Kakwani & Pernia (2000) index. The Ravallion & Chen (2003) index produces an estimate of 0.584 while the Kakwani & Pernia (2000) index produces an estimate of 1.086.

In **Table 3** and **Table 4**, we present the pro-pooriness of growth results for the

**Table 1.** Poverty measures for Zambia, 2006-2015.

Year	Poverty headcount (p0)	Income gap ratio (p1)	Poverty severity index (p2)
2006	0.790865	0.485863	0.344119
2010	0.607644	0.297986	0.179488
2015	0.553349	0.280524	0.174611

**Source:** Author's computations from Stata 15.

**Table 2.** Pro-poor indices for Zambia, 2006-2015.

Pro-poor indices	Estimate	STE	LB	UB
Growth rate(g)	0.956024	0.24206	0.481241	1.430806
Ravallion & Chen (2003) index	0.583747	0.072974	0.440614	0.726881
Ravallion & Chen (2003) g	-0.372302	0.183061	-0.731363	-0.013241
Kakwani & Pernia (2000) index	1.086007	0.259388	0.577236	1.594778
PEGR index	1.038248	0.386498	0.28016	1.796336
PEGR g	0.082225	0.091803	-0.097841	0.26229

**Source:** Author's computations from Stata 15. STE = standard error; LB = lower bound; UB = upper bound.

**Table 3.** Pro-poor indices for Zambia, 2006-2010.

Pro-poor indices	Estimate	STE	LB	UB
Growth rate(g)	0.857001	0.227839	0.410112	1.30389
Ravallion & Chen (2003) index	0.566562	0.071245	0.42682	0.706304
Ravallion & Chen (2003) g	-0.29044	0.170328	-0.624524	0.043646
Kakwani & Pernia (2000) index	0.92745	0.2125	0.510646	1.344253
PEGR index	0.794825	0.309118	0.188514	1.401137
PEGR g	-0.06218	0.075563	-0.210388	0.086036

**Source:** Author's computations from Stata 15. STE = standard error; LB = lower bound; UB = upper bound.

**Table 4.** Pro-poor indices for Zambia, 2010-2015.

Pro-poor indices	Estimate	STE	LB	UB
Growth rate(g)	0.053324	0.069806	-0.083596	0.190244
Ravallion & Chen (2003) index	0.022367	0.043543	-0.06304	0.107774
Ravallion & Chen (2003) g	-0.03097	0.060333	-0.14931	0.087369
Kakwani & Pernia (2000) index	2.851547	4.07991	-5.150898	10.853993
PEGR index	0.152056	0.160325	-0.162411	0.466523
PEGR g	0.098732	0.062241	-0.023349	0.220813

**Source:** Author's computations from Stata 15. STE = standard error; LB = lower bound; UB = upper bound.

periods 2006-2010 and 2010-2015, respectively. Our findings indicate a similar trend for the pro-poorness of growth in these two periods. We find that for the period between 2006-2010 a PEGR of  $-0.062$  is obtained with the actual growth rate being  $0.857$ . The associated Ravallion & Chen (2003) index estimate is  $0.567$  while the Kakwani & Pernia (2000) index estimate is  $0.927$ .

The final indices we estimate are for the period between 2010 and 2015. For this period, the estimate for the computed PEGR for is  $0.098$  while the actual growth rate is  $0.053$ . The estimates of Ravallion & Chen (2003) and Kakwani & Pernia (2000) indices are  $0.022$  and  $2.852$ , respectively as shown in Table 4.

#### 2.2.4. Discussion of Results

This study finds that the rates of poverty in Zambia are high at over 50 percent and even higher in rural areas compared to urban areas. For instance, the rural poverty rate for 2006 was 80.3 percent while the urban rate for the same year was 29.7 percent. In 2010, the poverty rate for the rural population was 77.9 percent with the urban rate standing at 27.5 percent. The rates for 2015 stood at 76.6 percent and 23.4 percent for rural and urban areas, respectively. The poverty rates remain stubbornly high, especially for the rural side which call for special attention and targeted policies to address the trend.

When it comes to the pro-poor growth estimates, we find that overall, the PEGR for Zambia during the period 2006-2015 at  $0.082$  and is lower than the actual growth rate estimated at  $0.956$ . The PEGR which is key in judging the pro-poorness of growth demonstrates that growth in Zambia has not been pro-poor in the period under review. Further, using a 95% level of confidence we find that the estimate of the lower bound is negative at  $-0.097841$  and is not statistically significant at 5%. We, therefore, find that the null hypothesis that growth in Zambia during this period has not been pro-poor cannot be rejected. Although positive economic growth was recorded, the poor in Zambia in this period derived less benefits from such growth than the non-poor. Growth has not impacted the poor in a significant way which should attract the attention of policy makers to put in place measure to pursue polices beyond just increasing

the economic growth rate but also focussing on the distribution of the benefits of economic growth. There is need policies to be designed to target the poorest sections of the society, particularly the rural poor whose poverty rates continue to be much higher than their urban counterparts. This is more likely to make a dent on poverty and its negative effects on the poor.

This study has also delved into assessment of pro-poor growth for the intervening periods 2006-2010 and 2010-2015. We also find that the 2006-2010 records a lower PEGR than the actual growth rate at  $-0.062$  and  $0.857$ , respectively. The poor benefited proportionately less from economic growth than the non-poor, hence growth was also not pro-poor. In the case of the period 2010 to 2015, while a PEGR of  $0.098$  that was higher than the actual growth rate of  $0.053$  was posted, we find that using a 95% level of confidence, the estimate of the lower bound is negative at  $-0.0233$  and not statistically significant at 5%. We also, therefore, find that growth in this period has not been pro-poor; the poor in Zambia in this period derived less benefits from such growth than the non-poor.

This study also observes that it is becoming more challenging to reduce poverty in Zambia. Our Stata results show that poverty only reduced from 60.8 percent to 55.3 percent between 2010 and 2015 compared to the reduction from 79.09 percent to 60.8 percent between 2006 and 2010. The government and policy makers need to isolate the reasons for this challenge and address them if poverty reduction is to become a reality and benefit the poorest of the poor proportionately more than the non-poor.

### 3. Conclusion

This study aimed to empirically measure the pro-poorness of economic growth in Zambia in the period 2006-2015. Using the methodology developed by [Kakwani et al. \(2004\)](#) applied to the LCMS of 2006, 2010 and 2015, we find that economic growth in Zambia has not been pro-poor. This lack of pro-poorness of economic growth covers the period from 2006-2015 where we find that the estimated poverty equivalent growth rate, our measure of the pro-poorness of growth, is lower than the actual growth rate estimate. Based on the 95% level of confidence we find that the estimate of the lower bound is negative and not statistically significant at 5%. Despite positive economic growth being recorded over this period, our estimates indicate that the poor in Zambia derived proportionately less benefits from such growth than the non-poor. Growth has not impacted the poor in a significant way, a situation which calls the attention of policy makers to pursue policies which go beyond just increasing the economic growth rate but also how the distribution of the benefits of such growth are distributed. Such targeted distribution has the potential to positively impact the poorest sections of the society, and especially the rural poor whose poverty rates continue to be much higher than their urban counterparts.

As has also been observed by other studies ([Ravallion & Chen, 2003](#); [Ansoms, 2010](#); [Chemli & Smida, 2013](#)), while enhancing economic growth is noble and

may even cause the poverty incidence to decline, it is by no means sufficient to cause the poor to derive more benefits from such growth than the non-poor. A robust assessment of the composition of the poor and their potential roles in the economic growth process must be executed to appropriately design interventions which yield dividends for this group of people in as far as poverty reduction is concerned.

This study investigated and empirically computed the pro-poorness of economic growth based on consumption poverty only. Poverty also has a multidimensional angle where other aspects of poverty including access to education and health facilities as well as access to services such as water facilities and electricity are considered in the poverty discourse. Further research is needed to show what the pro-poorness of economic growth results would be if poverty was looked at from this multidimensional view.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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