

Economic growth, Unemployment and Poverty: Implications for Inclusive Growth Architecture in Nigeria

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Abstract

This study investigates the impact of economic growth on employment and poverty in Nigeria, as a first approximation towards inclusive growth architecture. Using the Ordinary Least Squares regression, growth was found neither to have raised the level of employment nor reduced poverty in Nigeria under the period of investigation. An increase in growth rate is associated with a rise in poverty and unemployment, although not statistically significant. The findings are suggestive of public policy targeted at increasing the level of growth which raises the level of employment and reduces poverty, as a precursor to an inclusive growth organogram for Nigeria.

Keywords: *Economic growth, Inclusive Growth, Poverty, Unemployment.*

1. Introduction

Growth that is poverty reducing and employment oriented are envisaged in the economic literature. Although, economic growth does not necessarily reflect the wellbeing of the citizenry (Forgeard, Jayawickreme, Kern & Seligman, 2011; Wu & Li, 2013), it is however critical in the implementation of public programmes. Thus, growth in itself is a key macroeconomic objective.

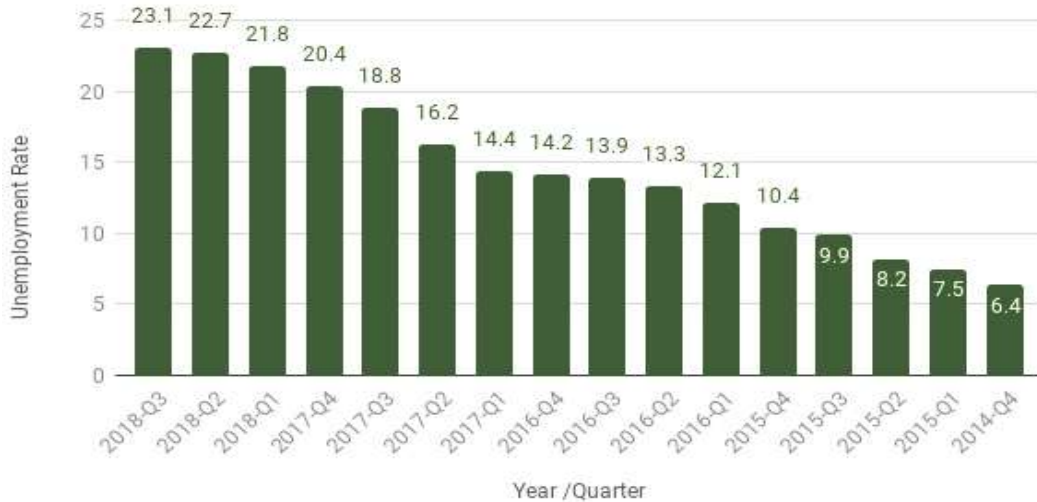
The imperative of inclusive growth is attested to in its centrality in development and policy circle (United Nation Development Programme (UNDP), 2015). According to the European Commission (2012), inclusive growth refers to "... raising employment rate more and better jobs especially for women, young people and older workers helping people of all ages, anticipate and manage change through investment in skill and training, modernizing labour markets and welfare systems,

ensuring the benefits of growth reach all parts of the society”. It thus, spreads the dividends of growth and prosperity, in terms of monetary and non-monetary gains across sectors of an economy (Organization for Economic Cooperation and Development, 2014). This view echoes Felife (2012), who considered inclusive growth as one that allows all members of a society to participate in and contribute to the growth process on an equal basis, regardless of their individual circumstances. In essence, inclusive growth promotes and enlarges the size of the economy, investment and increases productive employment opportunities, thus generating employment, reducing poverty, while ensuring that benefits accruing from economic growth reflect in all segments of a society (Lanchovichina & Lundstrom, 2009).

Similar to the phenomenon of unemployment, the fight against poverty is central to modern development paradigms. Meier and Stiglitz (2001) demonstrated that billions of people still lived in poverty, and that the “trickle-down” theory must be supplemented by policies of inclusion which reduce sharp disparities in incomes and assets, enhance human capital accumulation and employment opportunities, and help in the provision of safety nets for the more vulnerable individuals of a society.

Investigations by African Economic Outlook (2012) and Oloni (2013) found that growth in Nigeria has not significantly reduced unemployment rate and the level of poverty. Unemployment and its twin facet of underemployment have been on the upward trend in Nigeria over time and this is particularly pronounced since 2012. According to the National Bureau of Statistics (2018), the unemployment rate in recent times increased from 18.8% in Q3 2017 to 23.1% in Q3, 2018. Total combined unemployment and underemployment rates increased from 40.0% in Q3 2017 to 43.3% in Q3, 2018. Similarly, from 18.8% in Q3 2017 and 14.2% in Q4 2016, unemployment rate rose to 20.4% in Q4 2018. The trend of the unemployment rate in Nigeria from 2014 to 2018 is exemplified in Figure 1.

Figure 1: Unemployment in Nigeria



Source: NBS (2018)

At independence in 1960, the poverty level in Nigeria was estimated at 15% (Federal Office of Statistics, 1996; Federal Government of Nigeria, 2001); in 1980, it rose to about 27.2%; in 1985, it was about 46%, 43% in 1992 and 66% in 1996. About 70 percent of the Nigerian population lived in poverty in 2007. Over 80 million Nigerians lived below poverty line of \$1 per day (United Nations Development Programme, UNDP, 2016), despite the country's economic growth rates which averaged 7.3% between 2004 and 2012, which declined to about 3.5% between 2012 and 2017. In 2019, 91.16 million Nigerians (about 46.5% of the population) were estimated to be living below \$1.90 per day (World Poverty Clock, 2019). Regionally, the North-West is the poorest in Nigeria, with of 81.1% poverty rate, followed by the North-East (76.8%), then the North-Central (42.6%), the South-East (27.4%), the South-South (25.2%) and the South-West with 19.3% (Olawale, 2018).

Importantly, poverty reduction through policy and programmes appears to have been illusionary in Nigeria (Danaan, 2018). There is no doubt that the overall governance structure and political economy of Nigeria exacerbate the degree of poverty in the country (Iyoboyi, 2012; Omoyibo, 2013). Importantly, democracy appears not to have provided any antidote to the twin evils of poverty and unemployment in Nigeria. The return to civil rule in 1999 has not in the least led to improved wellbeing. Iyoboyi (2016) found that the adverse impact of

unemployment on poverty was higher under democracy (1999 to 2014) than the preceding period (1983-1998), suggesting that hopes in democratic regimes to turn the country around might have been misplaced.

On the part of growth in Nigeria over the years, it has been uneven. With oil windfall in the 1970s that was accompanied by fiscal inefficiency, various stabilization measures have been attempted, ranging from the Economic Stabilization Act of 1982 (largely ineffective and resulting in negative GDP growth rate in the early and late 1980s (Akinkunmi, 2017), to the Structural Adjustment Program (SAP) in an attempt to arrest the various bottlenecks in the economy (Awe, Crandell & Adepoju, 2015).

GDP in Nigeria grew at an average rate of 7% per year between 2000 and 2014. Owing to the collapse of oil price from 2014-2016, the country's growth rate dropped to 2.7% in 2015. This was worsened in 2016 when the country experienced a recession, leading to an economic contraction of 1.6%. Growth has rather remained muted since 2015, averaging 1.9% in 2018 and remained stable at 2% in the first half of 2019 (World Bank, 2020). As a medium term strategy to revive growth between 2017 and 2020, the Economic Recovery and Growth Plan (ERGP) was embarked on in March 2017, among other things, to engender and strengthen social inclusion and national cohesion, as well as address supply side constraints.

Public policy in Nigeria is implicated in the inability to translate the gains in growth to expected spread to the most miserable and vulnerable groups in the country. The progressive increase in the population of Nigerians who fall into poverty despite the rise in revenue from N4 billion in 1975 to N26 billion in 1980 (Oyemomi, 2003) is a demonstration of the seeming impotence of policy to address poverty in Nigeria. Consequently, aspirations and success of an inclusive growth organogram has been particularly threatened in recent times, mainly from recession and the global health pandemic (styled Covid-19). For example, National Bureau of Statistics (2020) reported that GDP performance recorded in Q1 2020 represents a drop of 0.23% points compared to Q1 2019 (2.1%), aside 0.68% points decline compared to Q4 2019 (2.55%), a reflection of the initial effects of disruption engendered by Covid-19 and collapse in oil price. This has led among others, to significant revisions to the 2020 budget, with the already vulnerable group bearing the brunt of economic contraction.

The economic contraction and downward review of the budget could be devastating to unemployment and consequently on poverty levels. Q2 of 2020 was expected to dip, largely due to lockdown across major economies of the world, which disrupted both supply and demand chain. According to the International Monetary Fund, a contraction of about 3.4% is expected in the Nigerian economy in 2020, as the pandemic and oil price shock aggravate the country's fiscal and monetary vulnerabilities. For example, while the stimulus package as a percentage of GDP on the average is 12% in the advanced economies, it is 0.34% in Nigeria. With Nigeria ranked 21st among 181 countries with an unemployment rate of about 23.1% and an estimated 87 million people living on less than \$2 a day in 2019, a deliberate policy which encourages inclusive growth is imperative. Importantly, the impotence of a monolithic reliance on oil has been amply demonstrated in recent times, most especially by the Covid-19 pandemic.

Several investigations have been carried out between unemployment and growth on one hand, and between growth and poverty on the other hand. For the former, different results have been found on the unemployment-growth relationship (the Okun's law in the empirics), due to the use of different methodologies, the period covered, the country or region studied, the model specified and the factors/variables controlled for. Some of the studies reported a significant negative impact of growth on unemployment (e.g., Pata, Yurtkuran & Kalca, 2018; Kargi, 2016). Some of the studies found no relationship between unemployment and growth (e.g., Barış-Tüzemen & Tüzemen, 2019). In some cases, asymmetric relationship between growth and unemployment has been found (e.g., Phiri, 2014; Garavan, 2017; Altunöz, 2019; Zwick, 2018; Despina, 2019). The results might also be influenced by the nature of the economy studied, as well as whether the focus is on the long or short run. For example, Jardin and Stephan (2011) reported that the effect of growth on unemployment is higher during contraction than during expansion, with evidence from Europe. In a similar vein, Lam (2014) reported contrasting results for Philippines in the long run and short run.

Some studies on Nigeria have reported an inverse relationship between growth and unemployment (e.g., Ojapinwa & Kemi, 2016; Abu, 2017; Adeleye, Odeleye & Aluko, 2017).

On the twin issues of unemployment and poverty, Iyoboyi (2016) compared democratic era from 1999 to 2014, with the preceding 16 years (1983-1998), and found that the adverse impact of unemployment on poverty was higher under

democracy, a situation that interrogates the imperative of democracy as a panacea to the two prongs of unemployment and poverty in the country.

Dollar and Kraay (2002) observed that not minding the optimism that growth will reduce poverty as expressed by many development economists, it has been shown by history that such confidence is misplaced, as 'jobless growth' has plagued Africa (Aryeetey & Baah-Boateng, 2007), and Latin America (Jemio & del Carmen Choque, 2006).

The results of the investigations on the impact of economic growth on poverty have been mixed. Interestingly, Ravallion (1995) noted that the poverty impact of growth has not been typically significant. However, most of the studies that have reported significant negative relationship between growth and poverty include Warr (2001), Bhagwati (2001), Dollar and Kraay (2002), Agrawal (2008) and, Pham and Riedel (2019). On the other hand, some studies have found that growth is neither a necessary nor a sufficient condition to address the issue of poverty (Ravallion, 1995).

It is also important to stress that while growth is important in a bid to reduce poverty, the role of income distribution cannot be overemphasized. Despite the prospects of poverty reduction in an environment of higher economic growth, inequality in income distribution can dampen growth potentials and even increase poverty (see Ravallion, 1997; Salvatore, 2004; Townsend, 2005).

To this end, this study focuses on the impact of economic growth on employment and poverty from a macroeconomic perspective, and what it portends for inclusive growth in Nigeria. The study is underpinned on Okun's law (Okun, 1962), which states that unemployment and growth (measured by gross domestic product) are inversely related; and the pro-poor growth theory (see Ravallion & Chen, 2003), in which poor people benefit from growth (broad-based) in both absolute and relative terms.

Following the introduction, the rest of the paper has the following structure. Methodology is covered in section two. The results are presented and discussed in section three. The study is concluded in section four.

2. Methodology

Annual data spanning 1981 to 2018 were used in the study. Data on economic growth (annual %) are from the *World Development Indicators* (World Bank,

2020), while data on unemployment and poverty (annual %) are from the *Statistical Bulletins* of the Central Bank of Nigeria (various issues).

To achieve the objective of the study, two models are specified as follows, in which the lagged dependent variable (in each case) is added to correct for autocorrelation:

$$Poverty_t = \alpha_0 + \alpha_1 Growth_t + \alpha_2 Poverty_{t-1} + \varepsilon_t \quad (1)$$

$$Unemployment_{nt} = \beta_0 + \beta_1 Growth_{nt} + \beta_2 Unemployment_{nt-1} + \varepsilon_t \quad (2)$$

As a necessary condition for inclusive growth, it is expected that growth should have an inverse and statistically significant impact on both poverty and unemployment. Standard time series econometric procedure was employed. Traditional tests for unit-roots such as the Augmented Dickey-Fuller and Phillips-Perron have been shown to have low power in the presence of structural breaks. Due to the defects of traditional unit root tests such as ADF and PP which suffer from low power and size distortion, the Zivot and Andrews (1992) framework was utilized, which endogenises the break from the data.

The Zivot and Andrews (1992) test is considered as more efficient and diverse as it allows for some sort of structural instability in an otherwise deterministic model. In this study, a procedure that allows for a single structural break in both the intercept and trend of the series was adopted, as the loss in power is minimal when the inappropriate framework is used (Sen, 2003). It is given by the following specification:

$$y_t = \hat{\mu}^c + \hat{\theta}^c DU_t(\hat{\lambda}) + \hat{\beta}^c t + \hat{\gamma}^c DT_t^*(\hat{\lambda}) + \hat{\alpha}^c y_{t-1} + \sum_{j=1}^k \hat{c}_j^c \Delta y_{t-j} + \hat{e}_t \quad (3)$$

where, $DU_t(\lambda) = 1$ if $t > T\lambda$, 0 otherwise; $DT_t^*(\lambda) = t - T\lambda$ if $t > T\lambda$, 0 otherwise.

The results of the unit root tests (see table 1) suggest that the variables are stationary. Consequently, the Ordinary Least Square (OLS) technique was adopted, which is anchored on the assumption that the stochastic properties of the variables are time-invariant. Otherwise, the use of the Ordinary Least Squares regression can lead to misleading interpretations when there is presence of non-stationary variables in the regression equation (Glynn, Perera & Verma, 2007). A cointegration test was not necessary given that the variables (poverty, unemployment and growth) were found to be stationary. Generally, when all the variables (dependent and independent) are found to be integrated of order 1, cointegration tests such as Engle and Granger (1987), Johansen (1988, 1996),

Phillips and Hansen (1990), Johansen and Juselius (1990) would be necessary. Where the dependent variable is integrated of order 1, the ARDL test (due to Pesaran, Shin and Smith, 2001) is applicable given that the regressors are either purely I(0), I(1) or fractionally integrated, so long as none of the variables is integrated of order 2.

The estimated models were subjected to diagnostics, including the goodness-of-fit (adjusted R^2), the joint significance of estimated coefficients (F-statistic), serial correlation (the Breusch-Godfrey LM Test); heteroskedasticity (ARCH tests), normality of residuals (Jaque-Bera test), and specification error test (Ramsey Residual error specification test, RESET). All the estimations were implemented using *Eviews10*.

3. Empirical Results

The descriptive statistic and correlation matrix of the variables used in the study is presented in the appendix. The mean growth rate for Nigeria from 1981 to 2018 is 3.2%, while poverty and unemployment averaged about 55% and 11% respectively. In the same period, growth rate reached 15.3%, the poverty level got to a dismal 88%, while unemployment surged for as high as 27.4%. The correlation matrix suggests that growth, poverty and unemployment are positively and significantly correlated, indicating that all three variables tend to move in the same direction, which reinforce the estimated regression coefficients.

The unit root test results are presented in table 1.

Table 1: Zivot-Andrews Unit root test results

Variable	t-statistics	Prob.	Break date
Growth	-3.584210*	0.008394	2002
Unemployment	-3.483186**	0.026506	1999
Poverty	-3.387928*	0.002102	2004

Note: * and *** denote significant at the 1 and 10 percent level. The null hypothesis is: there is a unit root with a structural break in both the intercept and trend. The asymptotic critical values of Zivot-Andrews test for model C (break in both the intercept and trend) at 1%, 5% and 10% are -5.57, -5.08 and -4.82 respectively.

Source: Author's computations.

From Table 1, the Zivot and Andrews unit root test rejects the null hypothesis of a unit root with a structural break in the intercept and trend in all the series. For comparative purpose, the models were estimated without and with break, using the break date in the regressor of interest (growth). To capture the break, a dummy variable was used, which takes the value of 0 from 1981 to 2001 and 1 from 2002 to 2018.

The estimated coefficients are presented in tables 2A and 2B.

Table 2A: Poverty and Growth (Model 1)

Dependent Variable: Poverty

Variable	Without structural break			With structural break		
	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic
C	14.936708**	5.998288	2.490161	15.09931**	6.079020	2.483839
Growth	0.085460	0.320469	0.266672	0.106917	0.327540	0.326423
Poverty(-1)	0.735141*	0.112924	6.510040	0.725283*	0.116223	6.240429
Dummy	-	-	-	1.845459	3.989468	0.462583
Diagnostics						
R ²	0.60			0.61		
Adjusted R ²	0.58			0.57		
F-statistic	25.81511(0.0000)			16.88354 (0.0000)		
JB	4.14316 (0.3319)			5.08855(0.4385)		
BG [χ^2 , 1]	0.846181 (0.3576)			1.103182 (0.2936)		
ARCH [χ^2 , 1]	0.019438 (0.8891)			0.018561 (0.8916)		
RESET (F-stat)	0.917075 (0.3452)			1.304557 (0.2619)		

Table 2B: Unemployment and Growth (Model 2)

Variable	Without structural break			With structural break		
	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic
C	0.599181	0.689604	0.868877	0.185395	0.697433	0.265824
Growth	0.096590	0.083962	1.150395	0.032022	0.087460	0.366131
Unemployment(-1)	0.939951*	0.054401	17.27813	1.040671*	0.073954	14.07180
Dummy	-	-	-	-2.743443**	1.422877	-1.928096
Diagnostics						
R ²	0.91			0.92		
Adjusted R ²	0.90			0.91		
F-statistic	173.3002 (0.000)			126.0070(0.000)		
JB	1.876023 (0.391045)			0.484891 (0.784706)		
BG [χ^2 , 1]	0.565823 (0.4519)			0.003997 (0.9496)		
ARCH [χ^2 , 1]	0.030915 (0.8604)			0.202179 (0.6530)		
RESET (F-stat)	1.204142 (0.2804)			0.107416 (0.7452)		

Note: * and ** indicate statistical significance at the 1 and 10 per cent levels respectively.

Under the diagnostics, probability values are in parenthesis; Chi-square values and number of lags are in square bracket. JB: Jarque-Bera test for normality of residuals; BG: Breusch-Godfrey Serial Correlation LM Test; ARCH: Engle's test for conditional heteroskedasticity; RESET: Residual specification error test. Author's computations.

Results in tables 2A and 2B indicate that poverty and growth on the one hand and, unemployment and growth on the other hand are positively related. The growth coefficients are not statistically significant, indicating that in the Nigerian context, a rise in growth rate is associated with a corresponding increase in the levels of poverty and unemployment. However the impact of growth on poverty and unemployment is not significant. The results are consistent in both models irrespective of the break in the regressor.

In addition, past levels of poverty and unemployment tend to reinforce their current levels as indicated by their 1-lagged coefficients which are statistically significant at 1%. Thus, growing incidences of poverty and unemployment are partly due to the pressures of the past. The dummy variable is statistically significant in model 2.

The result of the growth-poverty nexus reported in the present study are different from previous findings by Warr (2001), Dollar and Kraay (2002), Agrawal (2008) and, Pham and Riedel (2019). It reinforces the sharp reality of so many societies, that still live in poverty as demonstrated by Meier and Stiglitz (2001), a situation that questions the potency of the "trickle-down" theory as a panacea to the misery of large segments of society. The reason for the positive relationship might be due to the dismal failure of poverty alleviation programmes implemented in Nigeria, which have been illusory at best, as observed by Danaan (2018). It might also be due to inequality in income distribution, as this is capable of skewing the gains of growth in favour of the rich, as documented in Ravallion (1997) and Townsend (2005). Overall, the gains of growth have not achieved the objective of poverty reduction in Nigeria.

The finding on the relationship between growth and unemployment supports the 'jobless growth' trajectory that plagues Africa and Latin America, as reported by Aryeetey and Baah-Boateng (2007), and Jemio and del Carmen Choque (2006). It reinforces the previous findings by Iyoboyi (2016). The results differ from those

reported in Pata, Yurtkuran and Kalca (2018) and Kargi (2016), Ojapinwa and Kemi (2016), Abu (2017), and Adeleye, Odeleye and Aluko (2017).

The diagnostic statistics for the estimated models are adequate. 58% and 90% of the total variations in poverty and unemployment are explained by changes in growth respectively, as indicated by the Adjusted R^2 . The F-statistics and their associated probability values indicate that the coefficients of the explanatory variables are jointly significant in determining the variations in poverty and unemployment respectively. The residual tests in both models are satisfactory. Thus, the null hypothesis of no serial correlation is not rejected, the error terms are homoskedastic and the models are correctly specified, as indicated by the BG, ARCH and RESET statistics respectively. Additionally, the null hypothesis of normally distributed error term is not rejected in both models.

For robustness, the two models were re-estimated using least squares with breakpoints methodology (see Bai & Perron, 1998; 2003) setting 2002 as the break date. The results (see appendix 2) indicate that the impact of growth on both poverty and unemployment is not statistically significant, thus reinforcing the results presented in tables 2A and 2B.

3.1 Implications of estimated results for Inclusive Growth Architecture in Nigeria

Growth should *a priori* have an inverse and statistically significant impact on poverty and unemployment. The implication of the results in the present study is that as a necessary condition, growth is neither inclusive nor poverty and employment reducing in Nigeria. The results suggest that growth dividends are not geared towards improving the lot of a vast majority of Nigerians in terms of both employment and poverty reduction. Consequently, the nature and direction of growth in Nigeria lack the capacity to deal with the incidences of poverty and unemployment.

Protracted poverty and unemployment levels can hamper efforts to arrest the pandemic in the future, as shown by their past values. The implication is that unless there is a deliberate public policy to address current poverty and unemployment levels, dealing with them in the future would become herculean.

In addition, there is the additional burden of addressing issues of inclusive growth given exogenous challenges such as Covid-19. With the rise in unemployment and

social costs of palliative in a country where the majority depend on daily economic activities for survival, meeting an inclusive growth in Nigeria becomes more arduous. However, such incidences can provide a viable opportunity to deploy appropriate public policy to address growth that targets a large segment of the population, thereby reducing poverty and unemployment.

4. Conclusion

This study examines the impact of economic growth on employment and poverty in Nigeria and its implication for inclusive growth architecture. Using data from secondary sources and deploying OLS, evidence was found of a positive relationship between poverty and growth and between unemployment and growth. Although not statistically significant, an increase in growth rate is associated with a rise in poverty and unemployment. In addition, poverty and unemployment levels help explain their current levels. Thus, inclusive growth has been elusive for Nigeria.

A pro-poor growth framework is imperative for Nigeria in the first instance, due to the pervasive level of poverty in the country. Based on the empirical results, a deliberate public policy is required which is targeted at raising the level of employment and reducing poverty, as a precursor to an inclusive growth mapping. Poverty reducing strategies should aim at improving the productivity of the poor through productive employment.

The present study does not provide empirical evidence as to whether unemployment and poverty experienced in Nigeria cut across sectors or are concentrated, even though there is sufficient reason to assume so. Consequently, this study opens a vista of future research interests. Particularly, there is the need to investigate inclusive growth from a sectoral perspective, with emphasis on productive employment and poverty alleviation across various sectors of the economy, all of which engender and reflect progressive changes in the distribution of income, in addition to policies that promote self employment and reduce underemployment.

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APPENDIX 1

Descriptive statistics and correlation matrix

	Growth	Poverty	Unemployment
Mean	3.175087	54.85474	11.02895
Maximum	15.32916	88.00000	27.40000
Minimum	-13.12790	30.30000	1.800000
Std. Dev.	5.538474	13.72305	7.536933
Skewness	-0.870062	0.272755	0.555425
Kurtosis	4.539821	2.700029	2.137869
Jarque-Bera	8.548542	0.613643	3.130656
Probability	0.013922	0.735782	0.209019
Observations	38	38	38

Correlation matrix

Growth	1.000000		
Poverty	0.411253*	1.000000	
Unemployment	0.353173**	0.256524	1.000000

Note: * and ** denote significant at the 1 and 5 percent level respectively.

Source: Author's computations.

APPENDIX 2

Robustness Checks: Least Squares with Breaks

Table 1: Poverty and Growth (Model 1)

Dependent Variable: POVERTY

Break: 2002

Variable	Coefficient	Std. Error	t-Statistic	Prob.
1982 – 2001				
C	-2.480302	8.005214	-0.309836	0.7588
GROWTH	-0.261491	0.396397	-0.659669	0.5143
POVERTY(-1)	1.107646	0.158298	6.997222	0.0000
2002 - 2018				
C	26.29274	8.519568	3.086159	0.0042
GROWTH	0.552618	0.534669	1.033569	0.3093
POVERTY(-1)	0.478269	0.139241	3.434838	0.0017
R ²	0.70			
Adjusted R ²	0.65			
F-statistic	14.39387 (0.000000)			
JB	27.04069 (0.0000)			
BG [χ^2 , 1]	0.804240 (0.3698)			
ARCH [χ^2 , 1]	3.387934 (0.0657)			
RESET (F-stat)	1.206855 (0.2807)			

Table 2: Unemployment and Growth (Model 2)

Dependent Variable: Unemployment

Break: 2002

Variable	Coefficient	Std. Error	t-Statistic	Prob.
1982 - 2001				
C	0.355764	1.178592	0.301855	0.7648
GROWTH	0.094824	0.111230	0.852499	0.4005
UNEMPLOYMENT(-1)	0.963712	0.210495	4.578306	0.0001
2002 - 2018				
C	3.185340	2.750461	1.158111	0.2557
GROWTH	0.004723	0.169287	0.027899	0.9779
UNEMPLOYMENT(-1)	0.833255	0.124096	6.714582	0.0000

R ²	0.91
Adjusted R ²	0.90
F-statistic	65.34836 (0.00000)
JB	1.558019 (0.458860)
BG [χ^2 , 1]	2.372247 (0.1235)
ARCH [χ^2 , 1]	0.001364 (0.9705)
RESET (F-stat)	0.650027 (0.4264)

Source: Author's computations