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TRENDS AND DETERMINANTS OF POVERTY AND INEQUALITY IN NIGERIA

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ABSTRACT

The study analyzed the determinants of poverty and income inequality in Nigeria. The objectives of the study are to examine the impact of population growth on poverty and income inequality in Nigeria and to examine the impact of unemployment on poverty and income inequality in Nigeria. To achieve the stated objectives, secondary data from NBS and CBN statistical bulletin were collected on poverty, income inequality, population growth and unemployment. The study used descriptive statistics and Generalized Method of Moments(GMM) test as the estimation techniques of data analysis. The Kwiatkowski, Phillips, Schemidt and Shin, (KPSS) unit root test preceded the GMM test in order to establish the stationarity of the variables the variables are platykurtic in nature, implying their distributions are higher than normal. The KPSS stationarity test of the series showed that the variables were stationary at first difference as their respective LM statistics are less than 5 percent critical values. The GMM results show that the coefficient of population growth (POP) is positively related with poverty and statistically significant at 5 percent level. Similarly the coefficient of unemployment (UEM) is negatively related with poverty but statistically not significant at 5 percent level. Moreover, the coefficient of population growth (POP) is positively related with income inequality and statistically significant at 5 percent level. Also, the coefficient of unemployment (UEM) is negatively related with poverty and statistically significant at 5 percent level. The study concludes that there is significant prevalence of poverty and income inequality among the Nigerian citizen. Based on findings of the study recommends implementation of a sound government programme and welfare package in order to check growing rate of poverty and inequality in Nigeria.

Keywords: Population, Poverty, inequality, Income, Growth and unemployment

1. INTRODUCTION

The growing rate of poverty in the world has been a key concern to both global communities and various administrations and the world. Poor people live their lives in the absence of needed freedom of choices that people that surround them have. Often times, they find it very difficult to afford adequate food and housing, education and wellbeing which invariably makes them emotionally and psychologically hopeless (Udeorah and Aborh, 2018). The poor in the society are most susceptible to sickness, social vices and institutional abuse amongst others. Thus, one of the fundamental aims of the Sustainable Development Goal (SDG) is to exterminate poverty by half in the year 2030.

Meanwhile, the perception of poverty is composite; this is evident in various ways depending on the nature and degree of dearth faced by individuals. In absolute term, poverty denotes total or insufficient lack of fundamentaldesires such as food, housing and medical cares. It includes the insufficiency education opportunities, consumption of goodsand environmental health facilities. Relatively, people are said to be poor when their income fall below the average income in a community (World Bank, 2000). On the other hand, Ejere (2011) postulated that human capital has to do with the human factor in the process of production; and comprises of the jointknowledge, abilities or proficiencies and aptitudes of the labor force. Similarly, human capital development refers to the procedure of obtaining and growing the number of persons who have the skills, education and experience that are critical for economic growth and development of a country's economy (Okojie, 1995).

Nigeria's poverty situation is quite alarming. Both the quantitative and qualitative measurements show the rising prevalence and gravity of poverty in the country. This situation however, is quite ironical given the enormous physical and human resources that the country is blessed. A more alarming truth, is the fact that successive governments have invested huge material and human resources to arrest poverty situation, but significant improvement have not been recorded in that direction. The Human Development Report (UNDP, 2003) reveals that Nigeria is one of the poorest among the poor countries of the world.Nigeria ranks 54th with respect to the human poverty index (HPI) - making it the 20th poorest country in the world. It is also ranked 30th in gender related development index (GDI) while occupying 40th position from below in its human development index (HD1), these figures have not significantly improved for the better till date (Chikelu, 2016).

According to Obayori (2016), reduction in the level of poverty is the most difficult challenge facing any country in the developing world where on the average majority of the population is considered poor. Evidence in Nigeria shows that the number of those in poverty has continued to increase. For example the number of those in poverty increased from 27 percent in 1980 to 46 percent in 1985; it declined slightly to 42 percent in 1992, and increased very sharply to 67 percent in 1996 by 1999 it estimates had it that more than 70 percent of Nigerians lived in poverty. The increase in poverty level is accounted for by poor investment in human capital suchas poor investment in education and health of the citizenry (Gbosi, 2005).

Meanwhile, since Nigeria independence in 1960, successive governments have taken measures to promote programmes that enhance human capital development and poverty reduction in diverse ways. Several programmes such as Deep Sea Fish-Cage Culture, school-to-land, farm development and management programme (FDMP), poverty alleviation programme and skill acquisition centre amongst others which are aimed at developing the citizen, thereby reducing the incidence of poverty in the country. But these policies are yet to yield the much needed fruit.

2 STATEMENT OF THE PROBLEM

Globally, poverty and income inequality have been identified as major limitations to economic growth and development. Despite the fact that Nigerian economy is paradoxically growing, the proportion of Nigerians living in poverty is increasing every year (NBS, 2010). For instance, in 2004 the relative poverty stood at 54.4% representing 68.7 million Nigerians; whereas in 2010, poverty incidence rose to 69.00% representing 112.47 million Nigerians; while in 2011 it was 71.50% (NBS, 2010). The report also revealed that, 73.2% of the rural population was poor while 61.8% of urban population lives below poverty line in 2010.

Income inequality has also showed irregular pattern in Nigeria as revealed by NBS (2010). The Gini index was 0.434 in the South-South region and 0.444 in the South East region and averaged at 0.447 for the country. This revealed that, income is unevenly distributed among urban and rural households in the country. This implies that income inequality and poverty incidence existed at various levels among categories of individuals in the society. Persistence disparity in income and continuous increase in societal poverty could lead to inefficient allocation of resources and stunted growth in economic activities.

This paradox of growth in the face of poverty and income inequality calls for renewed efforts on investigating what determines poverty and income inequality in Nigeria. Thus, the objectives of the study are to examine the impact of population growth on poverty and income inequality in Nigeria; to examine the impact of unemployment on poverty and income inequality in Nigeria. The remaining parts of this study discuss literature review, methodology, results and discussion as well as conclusion.

3. THEORETİCAL FRAMEWORK

3.1. The Natural-Circumstantial Theory of Poverty

The natural-circumstantial theories are generally more concerned with the issue of property. The focus of these theories is the identification of certain important explanatory variables responsible for poverty. Among these are geographical location and the natural endowment of the individual's environment, unemployment, old age and so on. A major advantage of this theory is that they have a more immediate bearing on policy than the other theories. These theories hold that poverty reduction can be attained without substantial changes in the larger economic, social and political environment.

3.2. Empirical Literature

Several empirical studies have been carried out on poverty and income inequality among rural households in Nigeria. For instance, Apata, Apata, Igbalajobi andAwoniyi,(2010), who examined determinants ofrural poverty in Nigeria using probit model on a sample of 500 smallholder farmers, found that access to education improved probability of existing poverty. Furthermore, they found that the key role of education in poverty reduction is further underscored by evidence from farmers' exposure to workshops and seminars.

The Obayori, Udeorah and Aborh (2018) examined the impact of human capital investment on poverty reduction in Nigeriausing secondary data were collected from CBNstatistical bulletin and United Nations and World Bank reports. The econometric methods of unit test and GMM test were used to analyze the collected data on education expenditure, healthexpenditure and poverty level in Nigeria. Based on empirical results; the KPSS stationaritytest showed that all the variables are stationary and the GMM result showed that both governmentexpenditure in education and health were negatively and significantly related with poverty levelwere positively and significantly related.

In the South-South region of Nigeria, Edoumiekumo,Tamarauntari and Steve(2014) examined the incidence, depth and severity of poverty in BayelsaState. Results from the logit regression showed that agriculture and household size increases the probability that a household will be poor while dwelling in the urban area; being headed by male, a naira increase in households per capita expenditure on education and per capita expenditure on health and a year's increase in the number of years spent in school by household head reduces the probability that a household will be poor. Similarly, Sunday, Inimfonand Amina(2016) analyzes the determinants of poverty and income inequality among youths farmers in AkwaIbom State, Nigeria. Data were collected from 300 youths spreadacross the rural areas of the State. Combinations of sampling methods were employed to sample cross sectional data from respondents. The study used descriptive tools and regression analysis (Logit regressions) to analyze information collected. The socio-economic analysis reveals that, most youth farmers were educated; social capital formation was poor, while land size averaged at 0.48ha per youth. About 45.1% of male youths and 72% of female youths live below poverty line in the study area. Income inequality index revealed 0.4009 for male youths and 0.3797 for female youths. The Logit model estimates revealed that, youths' years in social organization, level of formal education, age of youths; amount of non-farm income, farm size, agricultural extension activities and commercial purposes of agricultural production reduced the probability of poverty incidence among youth farmers in the State. Household size and dependent ratio were positive drivers of poverty among rural youths.

In the south eastern Nigeria, Ogbonna, Onyenweakuand Nwaru, (2012) conducted an empirical study to determine factors that influence rural poverty among yam farm households. The result identified level of education, socialgroup membership, farming experience and participation in agricultural workshop as negative driver of ruralpoverty. However, household dependency ratio had a positive relationship with rural poverty.

In the middle belt, Asogwa,Umeh, and Okwoche(2012) estimated the determinants of poverty depth among the peri-urban farmers in Benue State, Nigeria. Result showed that, farm total economic efficiency, household income, farm size, household size, age, education, farming experience, access

to credit, gainful employment for household members, membership of farmer association, extension contact and valuable farm asset significantly influenced poverty among respondents.

In the South west region of Nigeria, Olawuyi and Adetunji (2013) analyzed the incidence, severity and the determinants of household poverty in Ogbomoso Agricultural Zone of Oyo State. Gender, household size,years spent in school, farm size and non-farm jobs were found to be important and significant factorsdetermining poverty in the study area. Still in the same region, Igbalajobi,Fatuase and Ajibefun(2013) analyzed thedeterminants of poverty among rural farmers in Ondo State. The result of the Logit model indicated that age,gender, marital status, household size, access to credit, farm income and educational level of respondents werethe major determinants of poverty among rural farm households.

In the South West, Awotide, Awoyemi and Oluwatayo(2015) assessed income inequality and poverty among rural households in Akinyele local government area, of Oyo State. The study revealed that income was more evenly distributed among the female headed households than the male counterparts in the study area. Empirical result revealed that, number of dependent ratio and households' size significantly increases the probability of falling below the poverty line among the respondents. The result further showed that, access to credit and contact with extension agents had significant poverty reducing effects. Similarly, Akinbode (2013) also assessed the poverty situation and its determinants among urban households in the south-west region of Nigeria. The FGT decomposition poverty in the area showed that 34 percent of the households were poor with a poverty gap and severity indices of 0.11 and 0.06 respectively. The study furtherrevealed that educational level of heads, household size, gender of heads, dependency ratio and access to credit exerted significant effect on household poverty in the region.

In the Northern region of Nigeria, Duniya and Rekwot(2015) investigated the determinants of poverty among groundnut farming households in Jigawa State. Result showed that, age of household head, marital status of household head, education, and membership of cooperativehad negative relationship with poverty incidence while farming experience and extension contact had positive significant relationship.

3.3 Research Gap/Justification of the Study

From the literature reviewed, it is observed that most empirical researches on poverty in Nigeria focused on poverty determination only without giving due consideration to income inequality among respondents. Hence, this study focused on both income inequality and poverty in Nigeria. Also, an econometric method via GMM test was used to analyzed the study having chosen a period of 1980-2015 which was far more wider in scope than the empirical literature reviewed.

4. METHODOLOGY

The paper used time series data obtained from CBN statistical bulletin and applied the econometrics methods of KPSS unit root test and GMM test. Meanwhile, the variables were subjected to descriptive statistics prior the KPSS and GMM econometrics test. The model for the study was stated in a log-linear form in order to put the variables on the same scale.

4.1. The Unit Root Test

The Kwiatkowski, Phillips, Schemidt and Shin (KPSS) test of stationarity of the variables come first before the GMM test. The KPSS is associated with low power structural break of the series. This general form of the unit root test model with a constant and trend is formalized below:

$$\Delta POV_t = \alpha_0 + \alpha_1 POV_{t-1} + \sum_{i=1}^{m} \delta i \Delta POV_{t-1} + \varepsilon_t \quad (3.1)$$

Where: POV_t= Time series under consideration, $\alpha_1$andδi= parameter estimates, m = lag length, Δ= First difference operator and ε_t= Random disturbance term

4.2. The Generalized Method of Moments (GMM)

The GMM estimation technique is preferred in the study due to its capable of avoiding biased results due to correlation between the error term and the lagged endogenous variable. The equation of the GMM is given as

$$\sum (z\,(y_1 - x_1\beta) = 0 \qquad (3.2)$$

Thus, the estimated model is;

$$LnINQ_t = \alpha_o + \alpha_1 LnPOP_t + \alpha_2 LnUEM_{t-1} + U \qquad (3.3)$$

$$LnPOV_t = b_o + b_1 LnPOP_t + b_2 LnUEM_{t-1} + U \qquad (3.4)$$

Where; $\alpha_o$and b_0 are the constant terms, $\alpha_1 - \alpha_2$ and b_1-b_2 are intercept parameters, Ln is Logarithm to base ten, INQ_t is income inequality, POV is poverty level, U is the error term at time, POP is population at current form and UEM_t is unemployment at current form.

5. RESULT AND DISCUSSION

Table1: Description Statistics Results

Variables	INQ	POV	POP	UEM
Mean	3103.393	56.73861	119.9394	8.850000
Std. Dev.	1223.106	13.96784	32.51633	2.940700
Skewness	0.057413	-0.392160	0.361579	0.366917
Kurtosis	2.776935	1.928654	1.981357	2.104123
Jarque-Bera	0.094415	2.644409	2.340887	2.011663
Probability	0.953890	0.266547	0.310229	0.365740
Observations	36	36	36	36

Source: Authors' Computed Result (E-view 9)

The descriptive statistics results in Table 1 indicated that INQ has an average value of N3103.393billion and standard deviation of N1223.106billion; POV has an average value of 56.7% and standard deviation of 13%; POP has an average value of 119.9 and standard deviation of 32.5% and UEM has an average value of 8.85% and standard deviation of 2.9 % during the period of review.The Jarque-Berra statistic accepted the null hypothesis of normal distribution for INQ, POV, POP and UEM at 5 percent critical value. All the variables are platykurtic in nature as their respective kurtosis values of about 2.77, 1.92, 1.98 and 2.01 are less than 3, implying their distributions are higher than normal. This may have resulted from the problem of trended data, which was examined with the unit root analysis.

Table 2: Kwiatkowski, Phillips, Schemidt and Shin (KPSS)Unit Root Test of Stationarity

Series	**Levels test**		**First Difference test**		
	LM Stat.	**Critical value (5%)**	**LM stat.**	**Critical value (5%)**	**Order of integration**
INQ	0.6274	0.4630	0.2737	0.4630	I(1)
POV	0.5655	0.4630	0.2287	0.4630	I(1)
POP	0.71015	0.4630	0.2098	0.4630	I(1)
UEM	0.6377	0.4630	0.2423	0.4630	I(1)

Source: Authors' Computed Result (E-view 9)

The KPSS stationarity test of the series as presented in Table 2 showed that none of the variables was stationary at levels. This is because the LM (Lagrange multiplier) statistics values of the variables at the levels test were higher than 5 percent critical value. The variables were then differenced once to achieve stationarity. The result showed that the variables were stationary at first difference as their respective LM statistics are less than 5 percent critical values.

Table 3: Generalized Method of Moments Result for Poverty Model

Dependent Variable: LOG(POV)
Method: Generalized Method of Moments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.347860	0.951005	-0.365782	0.7169
LOG(POP)	0.957838	0.224423	4.267999	0.0002
UEM	-0.022390	0.019427	-1.152504	0.2574

R-squared	0.675553	Mean dependent var	4.004893
Adjusted R-squared	0.655889	S.D. dependent var	0.272177
Durbin-Watson stat	1.563558	J-statistic	6.05E-43

Source: Authors' Computed Result (E-view 9)

The log-linear regression result in Table 3 showed that the explanatory power of the model is 0.675. This showed that about 68% of the total variation in poverty level (POV) is explained by population growth (POP) and unemployment while the remaining 32% is explained by other variables which were not included in the model but determine poverty in Nigeria; but are accounted for by the random variable (U). Also, the estimated model showed that serial autocorrelation is not a serious problem as shown by the value of Durbin Watson (DW) statistic of 1.58. Thus, the model is valid for policy and forecasting.

The coefficient of population growth (POP) is positively related with poverty based on economics theory and statistically significant at 5 percent level. Meaning that the alternative hypothesis was accepted. Thus, it was concluded that a percentage increase in population growth (POP) will increase poverty in Nigeria by about 0.9578%. Similarly the coefficient of unemployment (UEM) is negatively related with poverty based on economics theory but statistically not significant at 5 percent level. Meaning that the null hypothesis was accepted. Thus, it was concluded that a percentage increase in unemployment will decrease poverty in Nigeria by about 0.02239%.

Table 4: Generalized Method of Moments Result for Inequality Model

Dependent Variable: LOG(INQ)
Method: Generalized Method of Moments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.914940	1.940913	0.471397	0.6405
LOG(POP)	1.614870	0.424242	3.806480	0.0006
UEM	-0.074089	0.031130	-2.379955	0.0232

R-squared	0.301584	Mean dependent var	7.931860
Adjusted R-squared	0.259255	S.D. dependent var	0.544545
S.E. of regression	0.468671	Sum squared resid	7.248534
Durbin-Watson stat	1.345265	J-statistic	4.04E-43

Source: Authors' Computed Result (E-view 9)

The log-linear regression result in Table 3 showed that the explanatory power of the model is 0.675. This showed that about 68% of the total variation in income inequality (INQ) is explained by population growth (POP) and unemployment while the remaining 32% is explained by other variables which were not included in the model but determine income inequality in Nigeria; but are accounted for by the random variable (U). Also, the estimated model showed that serial autocorrelation is not a serious problem as shown by the value of Durbin Watson (DW) statistic of 1.58. Thus, the model is valid for policy and forecasting.

The coefficient of population growth (POP) is positively related with income inequality based on economics theory and statistically significant at 5 percent level. Meaning that the alternative hypothesis was accepted. Thus, it was concluded that a percentage increase in population growth (POP) will increase income inequality in Nigeria by about 1.6148%. Similarly the coefficient of unemployment (UEM) is negatively related with poverty based on economics theory and statistically

significant at 5 percent level. Meaning that the alternative hypothesis was accepted. Thus, it was concluded that a percentage increase in unemployment will decrease income inequality in Nigeria by about 0.074%.

5.1. Conclusion And Recommendation

The study analyzed the determinants of poverty and income inequality in Nigeria. The need for the study was stem from the fact that, the current growing rates of population and unemployment could not match the growing rate of poverty and income inequality. . Thus, the objectives of the study are to examine the impact of population growth on poverty and income inequality in Nigeria and to examine the impact of unemployment on poverty and income inequality in Nigeria. To achieve the stated objectives, secondary data from NBS and CBN statistical bulletin were collected on poverty, income inequality, population growth and unemployment. The study used descriptive statistics and Generalized Method of Moments(GMM) test as the estimation techniques of data analysis. The Kwiatkowski, Phillips, Schemidt and Shin, (KPSS) unit root test preceded the GMM test in order to establish the stationarity of the variables. The descriptive statistics results show that the Jarque-Berra statistic accepted the null hypothesis of normal distribution for INQ, POV, POP and UEM at 5 percent critical value. All the variables are platykurtic in nature, implying their distributions are higher than normal. The KPSS stationarity test of the series showed that the variables were stationary at first difference as their respective LM statistics are less than 5 percent critical values.

The GMM results show that the coefficient of population growth (POP) is positively related with poverty and statistically significant at 5 percent level. Similarly the coefficient of unemployment (UEM) is negatively related with poverty but statistically not significant at 5 percent level. Moreover, the coefficient of population growth (POP) is positively related with income inequality and statistically significant at 5 percent level. Also, the coefficient of unemployment (UEM) is negatively related with poverty and statistically significant at 5 percent level.

The study concludes that there is significant prevalence of poverty and income inequality among the Nigerian citizen.Based on findings of the research, the following recommendations were proposed: A sound family programme and welfare package should be design and implemented in order to checkthe growing rates of poverty and inequality in Nigeria. Empowering and strengthening of social capital formation will also help to reduce poverty and income inequality among them.

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APPENDICES

Appendix I: Research Data

YEAR	INQ(₦ m)	POV (%)	POP	UEM(%)
1980	428.0300	29	73.70000	6.4
1981	2709.920	30	75.73000	7.1
1982	2568.960	34	77.73000	4.7
1983	1105.820	37	79.73000	10.2
1984	2244.600	41	81.78000	7.3
1985	2396.140	44	83.90000	6.1
1986	2391.680	44	86.12000	5.3
1987	2316.530	44	88.41000	7.0
1988	2422.340	44	90.77000	5.3
1989	2540.560	43.9	93.18000	4.0
1990	2798.050	43.8	95.62000	5.5
1991	2705.470	42.5	98.09000	5.7
1992	2697.470	48	100.6000	7.5
1993	2665.700	53.9	103.1000	7.2
1994	2603.500	59	105.8000	6.8
1995	2596.010	66	108.4000	6.4
1996	2641.600	68	111.2000	6.4
1997	2649.320	69	114.0000	8.5
1998	2659.450	67	116.9000	7.6
1999	2606.710	70	119.8000	8.5
2000	2678.430	72	122.9000	11.5
2001	2833.290	68	126.0000	9.6
2002	3352.970	72	129.2000	8.8

2003	3601.300	78.6	132.6000	10.8
2004	3862.200	51.5	136.6000	10.2
2005	4025.300	62.2	139.6000	9.4
2006	4157.860	65.3	143.3000	9.9
2007	4308.770	67.5	147.2000	10.9
2008	4445.780	71.3	151.2000	12.8
2009	4626.620	76.46	155.4000	11.2
2010	4861.190	61.2	159.7000	11.5
2011	5080.150	64.5	164.2000	14.6
2012	5348.310	71.1	168.8000	12.4
2013	5096.55	61	173.6000	12.8
2014	5175.003	58.2	178.8	14.3
2015	520.57	63.63	184.16	14.4

Appendix II: Regression Results

INQ

Null Hypothesis: INQ is stationary
Exogenous: Constant
Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.627492
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	1454434.
HAC corrected variance (Bartlett kernel)	4456080.

KPSS Test Equation
Dependent Variable: INQ
Method: Least Squares
Date: 04/05/18 Time: 03:20
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3103.393	203.8510	15.22383	0.0000

R-squared	0.000000	Mean dependent var	3103.393
Adjusted R-squared	0.000000	S.D. dependent var	1223.106
S.E. of regression	1223.106	Akaike info criterion	17.08356
Sum squared resid	52359606	Schwarz criterion	17.12755
Log likelihood	-306.5041	Hannan-Quinn criter.	17.09891
Durbin-Watson stat	0.597000		

Null Hypothesis: D(INQ) is stationary
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.273795
Asymptotic critical values*:	1% level	0.739000

	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	893098.7
HAC corrected variance (Bartlett kernel)	893098.7

KPSS Test Equation
Dependent Variable: D(INQ)
Method: Least Squares
Date: 04/05/18 Time: 03:21
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.644000	162.0728	0.016314	0.9871

R-squared	0.000000	Mean dependent var	2.644000
Adjusted R-squared	0.000000	S.D. dependent var	958.8359
S.E. of regression	958.8359	Akaike info criterion	16.59747
Sum squared resid	31258454	Schwarz criterion	16.64191
Log likelihood	-289.4558	Hannan-Quinn criter.	16.61281
Durbin-Watson stat	1.235326		

POV

Null Hypothesis: POV is stationary
Exogenous: Constant
Bandwidth: 5 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.565516
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	189.6811
HAC corrected variance (Bartlett kernel)	849.6221

KPSS Test Equation
Dependent Variable: POV
Method: Least Squares
Date: 04/05/18 Time: 03:22
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	56.73861	2.327973	24.37254	0.0000

R-squared	0.000000	Mean dependent var	56.73861
Adjusted R-squared	0.000000	S.D. dependent var	13.96784

S.E. of regression	13.96784	Akaike info criterion	8.138777
Sum squared resid	6828.519	Schwarz criterion	8.182763
Log likelihood	-145.4980	Hannan-Quinn criter.	8.154129
Durbin-Watson stat	0.237447		

Null Hypothesis: D(POV) is stationary
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.228719
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	45.34698
HAC corrected variance (Bartlett kernel)	23.11626

KPSS Test Equation
Dependent Variable: D(POV)
Method: Least Squares
Date: 04/05/18 Time: 03:22
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.989429	1.154874	0.856741	0.3976

R-squared	0.000000	Mean dependent var	0.989429
Adjusted R-squared	0.000000	S.D. dependent var	6.832328
S.E. of regression	6.832328	Akaike info criterion	6.709363
Sum squared resid	1587.144	Schwarz criterion	6.753802
Log likelihood	-116.4139	Hannan-Quinn criter.	6.724704
Durbin-Watson stat	2.545845		

POP

Null Hypothesis: POP is stationary
Exogenous: Constant
Bandwidth: 5 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.710556
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	1027.942
HAC corrected variance (Bartlett kernel)	5115.603

KPSS Test Equation
Dependent Variable: POP
Method: Least Squares
Date: 04/05/18 Time: 03:23
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	119.9394	5.419388	22.13155	0.0000

R-squared	0.000000	Mean dependent var	119.9394
Adjusted R-squared	0.000000	S.D. dependent var	32.51633
S.E. of regression	32.51633	Akaike info criterion	9.828747
Sum squared resid	37005.91	Schwarz criterion	9.872733
Log likelihood	-175.9174	Hannan-Quinn criter.	9.844099
Durbin-Watson stat	0.010290		

Null Hypothesis: D(POP) is stationary
Exogenous: Constant, Linear Trend
Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.209829
Asymptotic critical values*:	1% level	0.216000
	5% level	0.146000
	10% level	0.119000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	0.081059
HAC corrected variance (Bartlett kernel)	0.229245

KPSS Test Equation
Dependent Variable: D(POP)
Method: Least Squares
Date: 04/05/18 Time: 04:32
Sample (adjusted): 1981 2015
Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.524101	0.101286	15.04749	0.0000
@TREND("1980")	0.090661	0.004907	18.47465	0.0000

R-squared	0.911838	Mean dependent var	3.156000
Adjusted R-squared	0.909167	S.D. dependent var	0.972874
S.E. of regression	0.293210	Akaike info criterion	0.439590
Sum squared resid	2.837080	Schwarz criterion	0.528467
Log likelihood	-5.692826	Hannan-Quinn criter.	0.470270
F-statistic	341.3125	Durbin-Watson stat	0.749136
Prob(F-statistic)	0.000000		

UEM

Null Hypothesis: UEM is stationary
Exogenous: Constant
Bandwidth: 5 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.637784
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	8.407500
HAC corrected variance (Bartlett kernel)	36.69979

KPSS Test Equation
Dependent Variable: UEM
Method: Least Squares
Date: 04/05/18 Time: 03:24
Sample: 1980 2015
Included observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.850000	0.490117	18.05693	0.0000

R-squared	0.000000	Mean dependent var	8.850000
Adjusted R-squared	0.000000	S.D. dependent var	2.940700
S.E. of regression	2.940700	Akaike info criterion	5.022557
Sum squared resid	302.6700	Schwarz criterion	5.066543
Log likelihood	-89.40602	Hannan-Quinn criter.	5.037909
Durbin-Watson stat	0.360326		

Null Hypothesis: D(UEM) is stationary
Exogenous: Constant
Bandwidth: 7 (Newey-West automatic) using Bartlett kernel

		LM-Stat.
Kwiatkowski-Phillips-Schmidt-Shin test statistic		0.242333
Asymptotic critical values*:	1% level	0.739000
	5% level	0.463000
	10% level	0.347000

*Kwiatkowski-Phillips-Schmidt-Shin (1992, Table 1)

Residual variance (no correction)	3.063755
HAC corrected variance (Bartlett kernel)	0.572531

KPSS Test Equation
Dependent Variable: D(UEM)
Method: Least Squares
Date: 04/05/18 Time: 03:25
Sample (adjusted): 1981 2015

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.228571	0.300184	0.761438	0.4516

R-squared	0.000000	Mean dependent var	0.228571
Adjusted R-squared	0.000000	S.D. dependent var	1.775913
S.E. of regression	1.775913	Akaike info criterion	4.014661
Sum squared resid	107.2314	Schwarz criterion	4.059100
Log likelihood	-69.25657	Hannan-Quinn criter.	4.030001
Durbin-Watson stat	2.850470		

Descriptive Statistic Result

	INQ	POV	POP	UEM
Mean	3103.393	56.73861	119.9394	8.850000
Median	2687.950	61.10000	115.4500	8.500000
Maximum	5348.310	78.60000	184.1600	14.60000
Minimum	428.0300	29.00000	73.70000	4.000000
Std. Dev.	1223.106	13.96784	32.51633	2.940700
Skewness	0.057413	-0.392160	0.361579	0.366917
Kurtosis	2.776935	1.928654	1.981357	2.104123
Jarque-Bera	0.094415	2.644409	2.340887	2.011663
Probability	0.953890	0.266547	0.310229	0.365740
Sum	111722.2	2042.590	4317.820	318.6000
Sum Sq. Dev.	52359606	6828.519	37005.91	302.6700
Observations	36	36	36	36

INEQUALITY MODEL

Dependent Variable: INQ
Method: Generalized Method of Moments
Date: 04/05/18 Time: 03:31
Sample: 1980 2015
Included observations: 36
Linear estimation with 1 weight update
Estimation weighting matrix: HAC (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
Standard errors & covariance computed using estimation weighting matrix
Instrument specification: POP UEM
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-76.53450	772.7357	-0.099044	0.9217
POP	34.12004	6.118203	5.576808	0.0000
UEM	-103.0973	58.72827	-1.755498	0.0885

R-squared	0.487869	Mean dependent var	3103.393
Adjusted R-squared	0.456830	S.D. dependent var	1223.106
S.E. of regression	901.4297	Sum squared resid	26814994
Durbin-Watson stat	1.167392	J-statistic	0.000000
Instrument rank	3		

Dependent Variable: LOG(INQ)
Method: Generalized Method of Moments
Date: 04/05/18 Time: 03:30
Sample: 1980 2015
Included observations: 36
Linear estimation with 1 weight update
Estimation weighting matrix: HAC (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
Standard errors & covariance computed using estimation weighting matrix
Instrument specification: POP UEM
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.914940	1.940913	0.471397	0.6405
LOG(POP)	1.614870	0.424242	3.806480	0.0006
UEM	-0.074089	0.031130	-2.379955	0.0232

R-squared	0.501584	Mean dependent var	7.931860
Adjusted R-squared	0.459255	S.D. dependent var	0.544545
S.E. of regression	0.468671	Sum squared resid	7.248534
Durbin-Watson stat	1.453265	J-statistic	4.04E-43
Instrument rank	3		

POVERTY MODEL

Dependent Variable: POV
Method: Generalized Method of Moments
Date: 04/05/18 Time: 03:32
Sample: 1980 2015
Included observations: 36
Linear estimation with 1 weight update
Estimation weighting matrix: HAC (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
Standard errors & covariance computed using estimation weighting matrix
Instrument specification: POP UEM
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.62223	9.501827	1.959857	0.0585
POP	0.403935	0.113941	3.545122	0.0012
UEM	-1.167380	1.235498	-0.944866	0.3516

R-squared	0.537219	Mean dependent var	56.73861
Adjusted R-squared	0.509172	S.D. dependent var	13.96784
S.E. of regression	9.785743	Sum squared resid	3160.105
Durbin-Watson stat	1.571197	J-statistic	4.38E-46
Instrument rank	3		

Dependent Variable: LOG(POV)
Method: Generalized Method of Moments
Date: 04/05/18 Time: 03:33
Sample: 1980 2015
Included observations: 36
Linear estimation with 1 weight update
Estimation weighting matrix: HAC (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)
Standard errors & covariance computed using estimation weighting matrix
Instrument specification: POP UEM
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.347860	0.951005	-0.365782	0.7169
LOG(POP)	0.957838	0.224423	4.267999	0.0002
UEM	-0.022390	0.019427	-1.152504	0.2574

R-squared	0.675553	Mean dependent var	4.004893
Adjusted R-squared	0.655889	S.D. dependent var	0.272177
S.E. of regression	0.159661	Sum squared resid	0.841228
Durbin-Watson stat	1.563558	J-statistic	6.05E-43
Instrument rank	3		