

## CONTEMPORARY ISSUES IN ECONOMIC PLANNING IN NIGERIA: THE LORENZ CURVE MODEL

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### ABSTRACT

*The basic economic problems confronting the Less Developed Countries (LDC) includes the problem of unemployment, poverty alleviation, infrastructural development and social welfares. These problems are captured in economic plan for development of a nation executed through capital expenditure in the budget. The study focused on Nigeria. The Lorenz curve and the Gini coefficient are two models applied to test the efficacy of Nigeria economic plan over seven years (2001-2007). The result shows effect development in 2005 and reduced incremental growth in 2006 and 2007. It was recommended that Nigeria policy makers should be economic plan implementation focused. The economic plan should be grass root design and implemented across the administration's life. It should also be made of long term period to be productive.*

### INTRODUCTION

Economic planning is a term used to describe the long term plans of an incumbent government to co-ordinate and develop the economy. Economic planning is commonly a feature of the government as it usually involves increased spending on things such as public work schemes and government programs. It is used by government to make economic decisions with respect to the use of resources. Economic planning is the control and direction of economic activity by a central public authority. The level and type of central planning in any economy is generally connected to the sort of political regime that dominates. In recent years, heavily structured economic programs have been associated in particular with socialism, communism, and fascism. Economic planning also became an important part of public policy in nations that did not adopt those doctrines, even in Western capitalist societies where the notion of a free market is a fundamental tenet. Central planning increases in importance during a recession, or any serious economic decline. Planning can involve the use of direct controls—such as rationing and price, rent and wage limits or indirect controls, such as monetary and fiscal policy. Critics, who generally tend to be pro Free-market, argue that the only economic planning that government should engage in is providing a framework for the economy to operate, such as sufficient infrastructure and the maintenance of law and order. The study measure the effectiveness of the economic policy especially the impact of NEED and SEED using the budget as tool of executing economic plan in Nigeria between.

### ECONOMIC PLANNING INCLUDES

- Discussing the long term future of economic growth, and ways of achieving the growth.
- Meeting social partners such as trade Union leaders to co-ordinate government planning in relation to these partners.
- Organizing committees to create reports and offer recommendations for future economic expansion.
- Ensuring income equity and even economic development.

Public policy considerations must be based on factors that affect not only economic growth but also income differences, while aiming at ameliorating economic inequalities. Otherwise, the increasing masses of the impoverished and unemployed, especially when instigated by exogenous conspiratorial forces, can impart major political upheavals. However, poverty alleviation should precede democratization because political information is costly and wealth concentration in the hands of a few means not only market control but also political control by a few. Yet history has taught us that accelerated democratization can often be futile for a sovereign nation without any subsequent commensurate economic reward for the masses. The developing nations' preoccupation merely with economic growth has produced varying degrees of environmental degradation and insensitivity to the quality of life. The notion of improving the well being of the impoverished is important, not only on violence grounds, but also to avert any political risk associated with widening income gaps. The developing countries have also been criticized for the phenomenon confronting almost all countries, since their economic development efforts have seemed to enhance the conditions of the wealthy, while leaving the poor behind. Hence, the need to achieve various economic policy through the

budget is more imperative. The budget should connote the break down of various economic activity aimed at improving the welfare of the populace.

### *Economic Planning Theories and Models*

Planning models is a term applied to several disciplines, each using certain techniques to achieve the planning objectives. For example, in construction industry Program Evaluation and Review Technique (PERT), Critical Path Method (CPM) and "CPM/Cost" are various planning tools devised for systematic and accelerated project implementation. However, development economists have concentrated most of their efforts on the analysis of the conditions currently facing various countries, the requisites for economic development, and the consequences and the experience of various countries in their development efforts. There is an absence of extensive economic development models in the literature. A number of theories on economic development have been posed by ~~various~~ economists dating back to Adam Smith, David Richrado, Karl Marx, W.W Rostow, Leontief (1986), and others. These theories have been summarized below,

### *THE CLASSICAL THEORY OF ECONOMIC*

#### *Stagnation, David Ricardo*

Ricardo's major principle was the law of diminishing returns which states that when increased quantities of a variable factor are added to a fixed factor then each additional output becomes continually lower.

#### *Marx's Historical Materialism, Karl Marx*

Marx believed in the ongoing process of change. He shows the transition of the working class society from capitalism, where emergence of monopolies brings about control over the workplace and eventually causing a revolt. This then leads to socialism and then to communism

Walter W. Rostow's economic stages are:

The traditional society

The preconditions for takeoff

The takeoff

The drive to maturity

### *STAGES OF ECONOMIC GROWTH*

#### *Balanced vs. Unbalanced Growth*

#### *Balanced: Ragnar Nurske*

The synchronized application of capital to a wide range of different industries is called balanced growth.

#### *Unbalanced: Albert O. Hishman*

Deliberately unbalancing the economic, in line with a predesigned strategy, is the best path for economic growth.

#### *Baran's Neo-Marxist Thesis Paul A, O*

##### *Baran*

A homegrown variety of a capitalist revolution in LDC's is unlikely because of western economic and political domination. He theorizes that the only way to make a change for capital accumulation would be a worker and peasant revolution.

#### *Dependency Theory. Celso Furtado*

According to Furtado, since the 18th century the world has been divided in a new international division of labor were the LDC's specialized in primary products depending on the DC's for any technological progress.

His basic thesis is that underdevelopment does not mean traditional or non- modern economic, political and social institutions, but subjection to the colonial rule and imperial domination of foreign powers.

### *Neoclassical Growth Theory Robert Socon*

The neoclassical model predicts that income per capita between rich and poor countries will converge. The theory stressed the importance of savings and capital formation for economic development.

### *The New Growth Theory Paul Romer*

If technology is endogenous new growth economists can elucidate growth were the neoclassical model fails. Variable technology means that the speed of convergence between DC's and LDC's is determined primarily by the rate of diffusion of knowledge.

### *Vicious Circle Theory*

Shows the circle of demand and supply as it relates to poverty. When income is low then there is low productivity per person and we see then in this case that the country is too poor to save. On the demand side when incomes are low there is also low investment.

### *The Lewis-Fei-Ranis Model*

When there is a limitless supply of labor available to the industrial sector this allows for the accumulation of capital and then will lead to economic growth. (Kooros 1998)

However, none of these theories, except that of Leontief's, provide a viable functioning structure for a development model.

The Kooros' Model, (1994, 1998), is also introduced. Beyond Leontief's and Kooros' models, (although the latter provide an optimum planning strategy, and the former does not), other so-called economic development models are descriptive or normative. This means that they cannot be quantified, since they merely propose some philosophical paradigms on how development should or would take place. Both Rostow, (1990) and Kooros, (1995) have described the "stages of economic development" and conditions that would lead to such an aspiration. On the other hand, North (1993) incredulously and without empirical evidence has asserted that democratic institutions are responsible for economic development. Contrary to North (1993) the growth and development of industrialized economies was not merely the result of democratic institutions, but due to many other conditions including technology, resources, productivity, and economic policies. North's naive conclusion on the causes of development leaves little hope for South's (i.e., developing countries') economic development, although according to Gillis et al, (1996) Given the great diversity in the developing country experience, it would be a counsel of despair to suggest that the way to begin development is first to recreate the kinds of political, social, and economic conditions that existed in Western Europe and North America when those regions entered into the modern economic growth", (Gillis, et al, 1996). Furthermore, the economic development of the West heavily relied on colonialization, neo-colonialization, slavery, sovereign disintegration, imposed long-term commodity concessions through either puppet governments or military interventions, and many other activities which are impermissible and intolerable to-day. Some of the richest Caribbean islands are still colonies. Apparently, Professor North has never been involved in economic development planning, nor do his studies bear any relevance to what has occurred in both the theoretical and experiential worlds. Beyond the models and theories referred to in the above, a collective self-reliance model for the Caribbean economic development has also been proposed by the Caribbean Economic Community, (CARICOM), which merely describes the attainment of economic development through inter-purchases among the CARICOM countries. The validity of the model has also been questioned by Kooros and O' R. Morriz, (1997), on grounds for the need of Western technology and markets. There are also related issues that pertain to the competitive advantage of the nations that help economic development. A number of descriptive models have been introduced which are more pertinent to corporate strategic planning. Almost all-economic planning models deal with causal forecasting or economic growth determination, including Harrod-Domar Model. These models include: a simple Keynesian macroeconomic growth model, Leontief's Input/Output model, the social accounting matrix, general equilibrium models, and cost benefit analysis approach, [Gillis, et. al 1996]. For example Harrod-Domar Model simply states the following:

$$g = s/k (1)$$

Where  $g$  = GNP or GDP

$s$  = saving rate

$k$  = capital/output

## Contemporary Issues in Economic Planning in Nigeria: The Lorenz Curve Model

Herrod Domar model can be rewritten as

$$\Delta Y_t = Y_t - Y_{t-1} = (Yk) - k_{t-1} = (Yk) (I_{t-1} - d_{t-1}) \quad (2)$$

Where  $y$  = GDP or GNP;  $I$  = gross investment;  $k$  = capital stock; and  $d$  = depreciation rate

It can also be written as  $\log y = a_0 + a_1 \log S - a_2 \log k$

This model states that economic growth, as measured by GNP, is dependent on the stock of capital or net capital investment, (excluding depreciation). Today in Nigeria the best measure of capital stock is the capital expenditure of the government. In general, forecasting models can be subsumed into three branches: causal forecasting, econometrics/ regression/ correlation, trend analysis, and qualitative forecasting, or opinion survey, the latter utilized in Kooros' model. The appropriateness of these models depends on the specific configuration of the problem under consideration.

### THE GINI COEFFICIENT MODEL

An economy's income distribution has been of interest to development economists, social scientists, and economic planners. The most common index for measuring income dispersion has been the Gini coefficient, attributed to the Italian economist Gini. Gini coefficient,  $G$ , measures the amount of inequality present in an economy divided by the amount of equality.  $G$  has also been utilized for income dispersion forecasting. Various authors, relating the impact of economic development to income distribution have introduced a number of models. For example, utilizing  $G$  as a measure of income inequity, (Gillis, et al, 1996, p. 85) have introduced two models, one in which:

$$G = -0.116 + 0.183 \log Y - 0.14 \log Y^2 \quad \text{-----} (1)$$

This model had been developed by Kooros (1994) through the study of 61 countries, (excluding the Eastern European countries, which have markedly less inequity), where  $Y$  = per capita GNP. The Kuznets' inverted-U income inequity is discernible from this model. Equation (1) can be utilized as a good forecast for future determination of  $G$ , given the estimate ability of the growth in per capita GNP in the future periods. Furthermore, it is believed that "Logically, if income of the poor rises with growth, their absolute income must also rise, since they are getting an increasing share of an increasing total", (Gillis, et al, 1996, p. 85). Kooros (2006) have introduced a second model as follows;

$$\log Y_p = -1.687 + 1.088 \log Y \quad \text{-----} (2)$$

Where,  $Y_p$  is the mean income of the poorest 40 percent of the families,  $Y$  is the per capita GNP, and where  $Y_p$  and  $Y$  have an association of R-squared,  $R^2 = 0.95$ . Adopting the 1990 World Development Report, and assuming a global poverty level of \$370 per capita,

Nissan and Shahmood (1993) have treated the concept of income equity determination through a stochastic model. However, all these studies infer correlation with the Gini coefficient, which has been refuted by Kooros (1994). Since poverty alleviation is an important sociopolitical concern, human development can therefore be viewed in a variety of ways, one of that is economic well-being, as measured by per capita gross domestic product, (GDP). This measure alone however, does not adequately account for socio-political policy considerations, such as health, education, environment, and political freedom, nor does it fully explain income distribution and other social and economic benefits produced in society. Forecasting income distribution, as an a priori, is of public policy importance for resource allocation decisions. The Gini concentration ratio, derived from the Lorenz curve, shows that the larger the share of the area between the 45-degree line (referred to as line of perfect equality) and the Lorenz curve, the higher the value of the Gini concentration ratio, (Baumol, et al, 1991). However, Gillis, et al (1996) has stated that "Estimating income equity through a simple index such as Gini coefficient has its own problems: Lorenz curves can intersect, causing different shapes with the same Gini ratio and perfect equality makes the measure insensitive to changes in distribution, especially in the incomes of low-income groups. Any measure that attempts to encompass the entire Lorenz curve in a single statistic must contain an element of arbitrariness.

### *Contemporary Issues in Economic Planning*

The Nigerian economy experienced almost two decades of poor economic performance after the collapse of oil prices in the early 80s, when a series of military dictatorships ignored prudent macroeconomic policies and state infrastructures. With the return of democratic rule in 1999, President Obasanjo's administration launched a series of economic reforms designed to address the structural and institutional weaknesses of the Nigerian economy. The economic reform plan includes acceleration of privatization, deregulation and liberalization of key sectors of the economy, fiscal and monetary reforms, infrastructural development, greater transparency and accountability, and anti-corruption measures as key elements of good economic governance. In March 2004, these policies were encapsulated in an all-embracing home-grown economic program known as the National Economic Empowerment and Development Strategy (NEEDS). The federal government also seeks an effective economic coordination of and a close collaboration with the state and local governments by encouraging them to design and implement equivalent programs based on the NEEDS model with acronyms like (SEEDS) State Economic Empowerment and Development Strategy and (LEEDS) Local Economic Empowerment and Development Strategy respectively. It is estimated that about 60 per cent of a total population of about 140 million people live on less than one dollar a day in purchasing power parity terms of every 10 Nigerians live on less than \$1 a day. This gives Nigeria the third-largest number of poor people in the world after China and India. World Bank (2005).

The major facets of the NEEDS Program should be to:

- a. Vigorously pursue to fruition, the privatization of NEPA, NITEL, NNPC and other malfunctioning public enterprises.
- b. Streamline the civil service and judicial structure at both the federal and State levels. Institute strict fiscal discipline and accountability. Strengthen our democratic institutions and uphold the rule of law.
- c. Seek to attain and surpass an annual growth target of 5% over the next 5 to 10 years.
- d. Refrain from initiating unnecessary large-scale projects and rather focus on improving the standard of existing ones and rehabilitate decaying social, scientific, educational and economic infrastructure.
- e. Encourage the growth of non-oil exports and aggressively support the emergence of Small and Medium Enterprises (SME) in the productive sector.
- f. Tackle the looming HIV/AIDS epidemic and enact a universal healthcare policy.
- g. Create policy incentives for entrepreneurs venturing into information technology business.

Mohamed (2006) summarized the focus of NEED on four key strategies as follows;

1. Reorienting values,
2. Reducing poverty,
3. Creating wealth, and
4. Generating employment.

It is based on the notion that these goals can be achieved only by creating an environment in which business can thrive, government is redirected to providing basic services, and people are empowered to take advantage of the new livelihood opportunities the plan will stimulate. NEEDS emphasizes the critical importance of improving agriculture. More and more reliable - electricity and a new and better maintained network of roads which will encourage businesses expansion.

### *Method of Study*

The study make use of the Lorenz curve and the Gini coefficient to determine how far NEEDS and SEEDS have achieved the goals of increased prosperity, poverty alleviation and employment generation. The Lorenz curve measure the extent of growth in national economy and reduction in poverty. The Gini coefficient measure growth in value terms. The Horrod Domar model was also used to measure wealth creation and growth using the GDP, the model is stated as follows;

$$G=s/k$$

Where G=GDP, S=saving, K=capital stock

Using logarithm, therefore, is

$$\log G = \log s - \log k$$

The Gini coefficient as defined by Kooros (1994) is as follows  $-0.116 + 0.183 \log y - 0.14 \log y^2$

Where  $y$ =GDP in year one. Where  $y^2$ =GDP in year two.

ANALYSIS

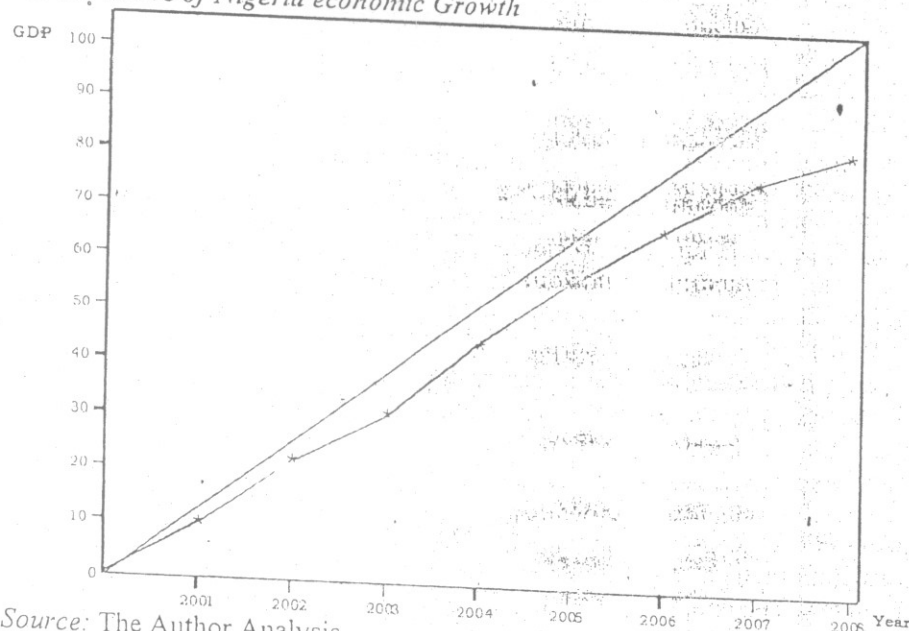
Nigeria Growth Rate Measure

Year	Gini Co-efficient	Growth
Year 2001	0.119	-
Year 2002	0.164	0.045
Year 2003	0.178	0.014
Year 2004	0.172	-0.006
Year 2005	0.31	0.138
Year 2006	0.126	-0.184
Year 2007	0.031	-0.095

Source: The Author Analysis

The above Gini coefficient calculated from model one by Kooro (1994) was used and the request shows that economic planning in Nigeria using the NEED, SEED, LEED and other development programme as tool to foster economic growth and stability the using the budget as the programme tool and guideline to this programme produce outstanding results. The result above shows that the marginal growth in government activity from 2001, 2002, 2003, 2004 with positive Gini Coefficient 0.119, 0.164, 0.175, 0.172 respectively. However a fall was experienced in 2004. This is due to change in economic programme and internal crisis with the nation e.g the Niger Delta crisis, which reduced capital expenditure and thus reduce economic growth. However, with the introduction of the various economic programme of NEEDs, SEEDs and LEED, which was well entrenched in the development planning and focused in the annual budget, growth was promoted in 2005 with astronomical growth of Gini coefficient of 0.31 the strongest ever, however from 2006, 2007, the G-coefficient dropped greatly due to preparation for election, and change of government.

Lorenz Curve of Nigeria economic Growth



Source: The Author Analysis

INTERPRETATION

The Lorenz curve shown above depicts the growth rate of the Nigeria GDP. The GDP experience great growth in 2001, 2002, thus in 2003 there was drop in economic activity this move the Lorenz curve far away from the line of perfection, however, from 2004 the economy continue to experience growth as the gap between the line of perfection and the Lorenz curve tins away, the implication of this, is that with the introduction of the government programmes of NEED, SEED at the state level and other developmental programmes, the Lorenz curve was moving closer to the line of perfection, this signify reduction in poverty, increase in wealth creation and the increase in the industrialization of the economy.

### GINI COEFFICIENT AND LORENZ CURVE

It needs to be stated that while the Lorenz curve measure absolute and cumulative growth, the Gini coefficient measures individual or yearly growth. Thus, the yearly growth might be on the decline but the cumulative growth as depicted by the Lorenz curve can still be on the increase positive Gini coefficient depict growth and negative Gini coefficient depict increase poverty and fall in economic growth. Thus, from our calculation there is no single time from 2001-2002 when we have negative G, however the incremental growth was on the decline, while the absolute growth was still on the increase one hope that with effect economic policy implementation the economy will experience growth, poverty will fall and economic growth will increase.

### SUMMARY

The implementation of various developmental objective as stated in the National economic planning from 2001-2007 has brought growth to the nation. The incremental growth has been on the decline, the best period ever experience was 2005, with the highest Gini coefficient, this is also corroborated by the Lorenz curve line which depict a departure from poverty, increase growth, increase wealth of the nation. It is also discovered that the internal crises of the Niger Delta and have impacted negatively on the economic growth and poverty reduction programme of the government. It was also discovered that implementation of various economic development plan have contributed greatly to the National development of the nation. The impact of executing development plan using budget as the yearly delimitation of the long term objective has also been highly productive. The fall in yearly G-coefficient after 2005 is due to poor coordination and will to pursue the programme as time runs by.

### CONCLUSION

The conclusion therefore is economic plan using the budget to foster great growth in the Nigerian economy. It is also important to say that more explanation should be placed on budget to foster developmental growth. However, more commitment is required on the side of policy implementation in Nigeria worst still whenever there is change of government, Policy of the 'former' government is most times jettison. For new ones or pursue with lip service.

The bane, therefore, of Nigeria economic growth boils down to;

- a. Poor will to implement development plan.
- b. Poor commitment due to change of government.
- c. Corruption of various sorts that have remains leakage to wealth creation.

### RECOMMENDATION

It is recommended that:

That economic policy should be developed from the grass root, that is, bottom up strategy. It is recommended that development plan should be broken down to the life of the administration and the budget should be developed to achieve the plan on yearly based throughout the life of the administration. It is recommended that poverty alleviation should be targeted toward income and wealth creation. Fruitful poverty alleviation programme should be budget based and infrastructure focused. The Gini coefficient reveals leakage in the economy hence reduced incremental growth; this leakage should be blocked or reduced.

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Contemporary Issues in Economic Planning in Nigeria: The Lorenz Curve Model

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