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Rethinking Lewis Development Model and the Nigerian Development Question.

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Abstract

This work revisits the Lewis Dual sector model of economic development and growth. The focus is on its applicability or otherwise to Nigeria. Adopting a classical theory of “unlimited supply of labour” in rural, subsistence agriculture and transferring it to modern, urban capitalist sector; Lewis sought to explain a path for growth and development for LDCs. For clarity, this paper is structured into five interrelated sections. The first section dwells on the background (educational and career) of the proponent of our theory. The second section succinctly gives the operational definition of the key concepts within the understanding of Sir Aurthur Lewis. The third section distilled properly the fundamental theses and assumptions of the model. The fourth and most important section dwells extensively on the model with Nigeria in focus. Obviously, Lewis model when carefully studied reveals some manifest contradictions. His wage determinism is flawed, creation of homogeneity is challenges with the emergence of a new duality of the formal and informal sectors everywhere instead of a developed capitalist sector, food shortage crisis and its implication for industrialization for the Nigeria raises it arrowhead, and the misconception of reinvestment of appropriated profits tints this model with flaws not appropriate for emerging economies. This paper adopts a purely qualitative method. In all we recommend “unlimited supply of land” and mechanized agriculture for balanced sectoral growth for Nigeria.

Keywords: Dualism, Capital accumulation, Surplus Labour, Unlimited Supply of Labour, Growth

Background

William Arthur Lewis was quintessentially Caribbean, born on January 23rd, 1915, in the colonial St. Lucia of the West Indies to immigrant Antiguan parents. He studied for a Bachelor of Commerce degree at the London School of Economics, finishing with a First Class Honours. Thereafter, remained there for a further ten years within which period, he obtained a doctorate degree in economics in 1940 and was consequently appointed a teaching staff. He spent major part of his life living in Britain or the United States but working on the problems of the Caribbean, Africa, Latin America, and Asia (Lewis, 1979). Lewis spent nearly as many years in administration as in scholarship which the time and space of this paper cannot accommodate, except for the brief sketch outlined below.

In 1948, Lewis was appointed to the Stanley Jevons chair of Political Economy at the University of Manchester and chair Political Economy at Princeton University in 1963. Between 1959 and 1962 Louise was Principal, University College of West Indies, and later Vice Chancellor University of West Indies from 1961- 1963. In 1979, Louis shared the Nobel Prize in Economics with Theodore Schultz, for his contribution to the understanding of economic development, in particular, the problem of developing countries. Lewis served as economic adviser to the Colonial Economic Advisory Committee and its successor body the Colonial Economic and Development Council during the war years. He was the founder of the Caribbean Development Bank (1970-1974)

Interestingly, Lewis overseas consulting projects also touches on Africa and Nigeria in particular. He served as consultant to Western Nigeria government in 1955. Lewis was also a Deputy Managing Director of the UN Special Fund and as an Economic Advisor to the Prime Minister of Ghana, Kwame Nkrumah from 1957 to 1958 under the auspices of the United Nations. He also taught briefly at the University of Ibadan as a visiting scholar between 1965 and 1967.

Lewis, a classical and development economist recalled, in his brief Autobiography, “it was the throng of Asian and African students at Manchester that set me lecturing systematically on development economics from about 1950, following Hayek’s rule that the way to learn was to teach” (Lewis, 1980, p.3). His most famous work, the article on “Economic Development with Unlimied Supplies of Labour” published in *The Manchester School* in 1954 was followed by “Theory of Economic Growth” in 1955. The Theory of “Economic Development with Unlimited Supply of Labour” according to Kirkpatrick and Barriento (2004) is widely regarded as the single most influential contribution to the establishment of development economics as an academic discipline. Lewis in this light, published extensively on industrial economics and economics of development in which he tackled issues such as: (1) the fundamental forces determining the rates of growth of agricultural and industrial countries or sectors; (2) the relative price of agricultural and industrial products; (3) distribution- the adjustment of the real wage and wage share of output as capital accumulate (Gole, 2008). As Lewis tells it, one day in August 1952, on the road in Bangkok, he saw the common solution to these problems: Use the classical assumption of an “unlimited supply of labour” available to a capitalist sector from an indigenous non-capitalist sector “at subsistence wage” (Lewis, 1992). It is his assumption that an “unlimited supply of labour” will keep wage down and profit will increase in the second case. We now turn to the details of his assumption.

Operationalization of Concept

Capitalist Sector: Is that sector of the economy that uses reproducible capital and pay capitalist for use thereof. It is driven by profit maximization.

Subsistence Sector: is by all difference that part of the economy which is not using reproducible capital. Output per head is lower in this sector that the capitalist sectors and it is not activated by capital and profit maximization.

Surplus Labour: Is the overall amount of labour not needed to finish a certain amount of work; the excess of labour in relation to certain quantity of production.

Unlimited Supply of labour: This exist in those countries where population is so large relatively to capital and natural resources, that there is large sector of the economy where marginal productivity of labour is negligible, zero or even negative. At the marginal productivity level in the subsistence sector, no further value is added.

Subsistence Wage: this is determined by a conventional law view of minimum required for subsistence, or it may be equal to the average product per man in subsistence agriculture, plus a margin.

Lewis Dual Sector Model: The Fundamentals of his Thesis

Lewis, adopting a classical standpoint addresses the stylized facts of savings, growth and labour transfer while explaining how real wage can remain low during industrialization. The dual economy theory seeks to provide an explanation of how a primarily agrarian economy is transformed via a dualistic state into a mature economy or in other word how and under what condition industry may grow from small holdings to overtake agriculture in both production and employment.

It is instructive to restate here that the focus of Lewis research during his time at Manchester was in the “fundamental forces determining the rate of economic growth” (Lewis, 1980, p .3). For Lewis, ‘the central problem in the theory of economic development is to understand the process by which a community which was previously saving and investing 4 or 5 percent of its national income or less converts itself to an economy where voluntary saving is running at about 12 to 15 percent of the national wealth or more’ (cited in Kirkpatrick & Armando, 2004, p .4). The focus was a ‘dual economics’ – small, urban, industrialized sectors of economic activity surrounded by a large, rural, traditional sector, like minutes is largely in vast ocean.

To find an answer, Lewis introduced a classically based theoretical model of economic development premised on the twin assumptions that there was an "unlimited supply of labour" in the traditional agricultural sector of the less developed countries and that as the modern industrial sector of these countries grew, this vast pool surplus would be absorbed. The phenomenon is frequently labeled "disguised unemployment in agriculture". Redundant unskilled labour transferred to industry at existing wage hold down industrial labour cost. However, increased demand with attendant higher prices for industrial output result in higher profit.

A capitalist sector develops by drawing labour from the non-capitalist subsistence sector. The existence of surplus labour (infinitely elastic labour) (Lewis, 1979, p. 211) in the subsistence sector ensures that over an extended period wages in the capitalist sector remain constant because the supply of labour to the capitalist sector exceeds demand at the wage rate, the surplus of the output over wages is captured by the capitalists as profits. Within the Capitalist sector, growth occurs as the shares of profits in national income rises and is directed to profitable investment or reinvestment. In the words of Kirkpatrick and Armando unlimited supplies of labour ensures that accumulation is sustained over time, but the dynamics of the economic forces at play lead towards economic transformation. Eventually, the reservoir of surplus in the subsistence sector is exhausted, and wages in the subsistence sector begin to rise (2004, p.682). According to Lewis (1954, p.141) an unlimited supply of labour may be said to exist in those countries where population is so large relatively to capital and natural resources, that there is large sector of the economy where marginal productivity of labour is negligible, zero or even negative.

Unlimited supplies of labour in the context of a dualistic economy, explain the sustained process of capital accumulation which provides the foundation for the process of economic transformation towards a homogeneous economy. According to Lewis, the reallocation process in poor countries would continue until the surplus agricultural labour (with zero marginal productivity) moves out of agricultural into commercialized non-agriculture causing a turning point at which time dualism would disappear and the less developed economies would be transformed into capitalist ones (1954, p.8).

Situating Nigeria's growth and Development in the Lewis Model

If we follow strict sensu the assumption of Lewis, we may not dare venture into relating his model to Nigeria. He seems to have provided a caveat that his assumption does square with certain countries. But that would be leaving the conclusion of the paper where it was sixty-six years ago, as though society is static. Lewis stated:

> we are not arguing, let it be repeated; that this assumption should be made for all areas of the world. It is obviously not true of the United Kingdom or of Northwest Europe. It is not true either for some countries lumped together as underdeveloped, in some part of Africa and of Latin America. On the other hand, it is obviously relevant assumption for the economies of Egypt, India, and Jamaica (1954, p. 141).

The reason he says, “there is an acute shortage of male labour” in some part of Africa. The classical based two-sector Lewis model reflects growth of various European economies of the past few centuries. It is not completely in sync with the realities of Nigeria and some other less developed or developing countries opting for growth and development. However, some relevance may suffice.

It is evident Lewis’ rural; subsistence and agricultural sector and the modern capitalist sector is quite feasible in Nigeria but not in the exact picture of Lewis. According to Helleiner the:

> dualism in Nigeria is of a different sort: the unemployment (overt rather than disguised) is in the modern urban industrial sector rather than in agriculture. The government is in fact attempting to persuade these unemployed to return to the land where their marginal productivity will be higher. Argument for increasing investment in agriculture in order to provide labour for industry is not labour but capital and entrepreneurship (1964).

The above quote is taken from Gerald K. Helleiner’s presentation in 1964, though reproduced in his 1966 paper titled “Peasant Agriculture Development and Export Instability: The Nigerian Case” presented at the Edinburgh Conference 1964. To further buttress the point, Myrdal (1984) commend to Nigeria that “agriculture is the bedrock of economic growth and prosperity the battle for long term economic growth will be won or lost in the agricultural sector” (See also Gardner 2005; Hebbi 2010). All these currently resonates with the economic growth and policies of Nigeria since the return to current democratic governance.

It is therefore self-evident that one fundamental of the model is the neglect of the contribution of the agricultural sector to economic growth and development. Recall Lewis:

> the reallocation process in poor countries would continue until the surplus agricultural labour (with zero marginal productivity) moves out of agriculture into commercialized non-agriculture causing a turning

> point at which time dualism would disappear and the less developed countries will be transformed into capitalist ones (1954, p.8)

The neglect of agriculture sector in favour of industrial sector will only lead to slow economic growth and inequality in income distribution. Therefore, even though agriculture may be unable to singlehandedly transform an economy; it is a necessary and sufficient condition in kick-starting industrialization (Byertee, Diad & Jackson, 2005). Unfortunately, Lewis fails to consider the structural articulation that agriculture provides for industrialization in Nigeria. The modern industrial sector depends on the agricultural sector for raw materials for its production purpose while the rural agricultural sector depends on the modern sector for finished consumable and other capitalist and industrial product (Schult, 1964; Timmer 2004).

What is rather expected is a mutual relationship between both of Lewis sector for growth and development. What is even more needed is a capital-intensive agricultural sector, hence the economic diversification drive of the Nigerian government with focus on agriculture. The glory days of positive growth and development prospect in Nigeria prior to the oil boom had agriculture accounting over 63% of the GDP (Aigbokhan 2001).

There is even more to this. It brings to the fore the role of agriculture and food supply in the examination of labour transfer. This must be taken into consideration in the transfer of labour from the rural agrarian sector to the modern, urban, and capitalist sector. It is trite that the uncontrolled and unrestricted transfer will result in aggregate food supply problem, except technological change is introduced. This is because as people move out of the traditional sector, they must consume agricultural products to survive. Therefore, rural-to- urban migration might also be limited by the supply of food. However, if there is a modern agricultural sector, producing food for people engaged in the industrial modern capitalist sector, in other word modern sector is self-sufficient in terms of food, the development of the modern sector would not face possible restriction of food supply from the traditional sector. The gamut of our argument here is that the sector rural, subsistence or modern capitalist sector must supply food for the whole population. We reemphasize that there is need for complimentarity and articulation of dual sectors of Lewis. In this light we agree in its entirety with the modification and claim put forward by Fei and Ranis (1997, p, 51). In their modification of Lewis, they had proposed that ‘’ increase in agricultural productivity generating an agricultural surplus to sustain the workers in the non-agricultural sector is a prerequisite for the emergence of a non-agricultural sector and expansion of its size. The surplus generated from this can be “used to permit both allocation of more workers to the non-agricultural activity and additional consumption of agricultural goods” (1997, p, 52). The implication of food shortage is stretched further. Fei and Ranis (1964) makes the argument explicitly by superimposing product dualism on Lewis organic dualism so that food shortage could cause a rise in the real agricultural wage and consequently, the real wage of unskilled industrial workers.

As Todaro and Smith put it, the model implicitly assumed that the rate of labour transfer and employment creation in the modern sector is "proportional to the rate of capital accumulation in the modern capitalist sector" (2003, p.120). By this assumption, the faster the rate of capital accumulation, the higher the growth rate of the modern sector and the faster will be the rate of job creation. It has rather not always been the case. Capitalist profits are reinvested in more labor-saving capital equipment rather than just duplicating the existing capital as is implicitly assumed in the Lewis model. The aftermath of capital- intensive production is structural unemployment and inherently, the creation of a new duality; formal and informal sector (Okowa, 1995, p.189). The fact of urban unemployment aptly indicates the inadequacy of the above model. Often, profit is repatriated abroad in the form of capital flight and not reinvested in the local economy.

Lewis analysis of wage determinism in a dual sector economy is as fascinating it is confusing. It will be apposite to restate it briefly. It is his profound assumption that capitalist wage in the modern sector will be or is determined by earnings in the subsistence sector. Recall that this subsistence is rural and agrarian. It is obvious that the subsistence rural agricultural sector in Nigeria as in elsewhere consist of mainly family units. There is no commercial plantation agriculture that is comprised of the neo-classical type of profit maximizing firm. Rural families' allocation of labour and proceeds therefrom is different. In fact, its wage is based on the sharing principle which can sometimes be above marginal product. This as they work together and share the output. Family work therefore means they would not allow one member of the family to be paid more while others are starving. Therefore, wage in these sectors is a product of average product of labour (Fei and Ranis 1964; 1997); Field (2004).

A rural-urban drift is pushed by the Lewis Dual Sector Model. This is in quest for employment and higher wage due to the high marginal productivity in the urban industrial sector as envisaged by Lewis. This neglect would cause a mass exodus from the land to the urban centres for unavailable capitalist jobs which could be caused by declined marginal productivity of the rural subsistence sector over the years due to poor tools, erratic power supply, poor road network, social amenities etc. It is the assumption of Lewis that real wage in the modern sector is determined by the real wage in the traditional sector and that anything which raises the productivity of the subsistence sector will raise wage in the capitalist sector. I reality, wages are determined by other factors beyond those stated above. A deliberate government policy through regulation of cost of living in the urban centre etc after wage could correct this farce.

Aside this, there are two driving forces that determine the amount of surplus labour and affect the transfer of labour from the traditional sector to the modern sector. On the supply side, rate of technical change in the traditional sector all determines the amount of labour that can be released. On the demand side, the rate of the modern sector expansion and development determine the amount of labour that can be absorbed. The number of people who can be taken on by the modern sector depends on the absorptive capacity or the job creation ability of the modern sector. Fortunately, but unfortunately for Lewis, agricultural sectors in Nigeria provide even in modern times that absorptive capacity than industry. What it rather needed is a mechanized capitalist agriculture.

Beyond the mechanisms of the Lewis model, it is obvious the under planned system as experienced in Nigeria between the 1960 to 1980s, government objective on employment may also cause overstaffing in the urban industrial sector. Thus, this explain how with urbanization, the dominant feature in Nigeria is urban unemployment, rather than industrialization. This kind of rural-urban drift has no tangible positive effects on economic development but is just a transfer of rural surplus labour to urban area.

Closely knit to the problem of rural- urban drift is the issue of transferability. How easily would the labour from the rural agrarian sector be easily integrated into the urban capitalist sector? Recall that the other sector of Lewis is purely traditional. As it is subsistence and peasantry, the skill, knowledge, attitude, technology required are crude and mundane so too is his work environment. Transferring the surplus labour therefore from the subsistence agricultural sector to the urban industrial capitalist would need some value- reorientation. How long this will take for growth and development to be ignited is well defined.

What about the problem of moving a peasant farmer who is emotionally tied to his land to a non- farming environment. How is it easy without value reorientation and capacity development? This are fundamentally issues to be resolved in the light of the assumption of the Lewis theory of development.

Stretching further, instead of the disappearance of dualism for homogeneity as assumed by Lewis, a new form of dualism is created, this time the informal and formal sector. As observed by Keith Hart and labour economist at the International Labour Organisation (ILO), what was taking place in the LDCs was that (instead of being transformed to formal workers in the modern formal capitalist sector, as assumed by the Lewis model) many traditional agricultural workers (urban unemployed workers unable to find employment in the formal sector) are now being transformed into informal workers in the urban sector. We find this people on the sidewalks as barbers, cobblers, waste recycler, venders of vegetables, fruits, meat, and a myriad of non-perishable items such as detergents, clothing, cart pullers, rickshaw pullers, taxi and tricycle drivers, operators of kiosks, etc. The informal sector "provides strategy for the urban poor who are excluded from regular wage employment" (Simon 2004, p.1). This form of survival though contribute to the growth of the economy has it ugly side, with overpopulated urban centres experiencing and upsurge in social vices and increased crime rate. The urban centres are turned "cities of peasant" (Bryan Roberts, 1978). In all the value and volume of economic transaction and its micro economic effect may even sometimes exceed what is recorded in at least parts of the formal economic sector. It is worthy of note that, the existence of large informal sector (economy) limits public incentives needed to create the condition for modern capitalist development. Informality particularly since it weakens the pool of national social capital, discourages in the type of institution needed for economic development.

Inherent in Lewis Theory of growth is massive exploitation of labour. Lewis considers economic development as rapid capital accumulation and believes that only capitalist can save and invest their income. This is also possible as urban wage in the world of Lewis remain constant. The notion behind this model is now obvious, income distribution favour only the saving class; that is for Lewis, the capitalist class, to facilitate rapid economic growth. This is attainable by keeping wages in the subsistence and capitalist sector constant. The implications are unequal distribution and labour exploitation. But suffice to say that assumption of constancy of wage premises on the existence of competitive condition in the labour market is untenable. The activities of Labour Unions have kept wage on the increase even in the face of raising unemployment. But whatever the thinking of Lewis is, the more capital is accumulated as total profits and appropriated capitalist employer instead of being redistributed, the poor poverty and misery instead of prosperity is reproduced.

Unequal distribution is open to further explanation of labour exploitation. The model therefore provides two class of exploiter and exploited. The mechanisms of the model work not through surplus labour but through labour exploitation. The Lewis model theoretically explains Marxist labour exploitation, though avoiding Marxist terminology.

It apposite to note however, that capital accumulation for productive investment on a large scale in Nigeria is not a product of capitalist saving. Suffice to say that a true capitalist class as assumed by Lewis does not exist here. Nigeria development efforts are driven and engineered by state intervention through capital injection for industrialization. Banks also give credits facilities for industrial development. The development trajectory of Nigeria must have the "invisible hand" guided by a "transparent glove" *(using Ann M. Florini concept differently;* see Florini, 1999, p. 163-170 in Plesbkovic & Stiglitz 1999). Unfortunately, Lewis did not consider the role of the state in economic growth and development. On the contrary, adhering to the gap between the capitalist and labour, Lewis neglected some factors such as individual savings of the poor workers, small farmers, and the middle class, for economic development. Private savings can be a vital capital formation in a country, though inconsequential in this case because of the volume of capital needed and particularly the slow pace of the development of the economy.

In this case there is need for deliberate domestic capacity creation and supporting policy for the indigenous sector. These with abundant externalities and stabilized rentals on imported capacity can replace Lewis cheap constant wage as the driver of the savings mechanism. With such background, surplus-labour countries need not be pessimistic about winning higher market share in industrial countries overtime in the context of rising wages. This adjustment however will be consistent with Lewis' view of how to achieve balanced growth.

However, by Lewis assumption and the introduction of division of labour following comparative cost advantage, Nigeria will but push for an import completing industrialization growth strategy or what Best (1975) describes as industrialization by invitation. Even with this, capitalist multinationals will continue to import labour-displacing capital, recreate surplus, repatriate high rent, avoid push for good governance and may even promote repression of radical labour movement and neglect the peasantry. This will neglect rural development which is the great scandal of development by this model-unbalanced development.

Conclusion

A critical reading of Lewis reveals that his intention was to distinguish between productive and unproductive activities of the dual sectors as a means of explaining the growing share of profit in national income and its place in national economic growth. Practically, the labour-saving bias of modern technological transfer supported by the widespread non-existence of rural surplus, the prevalence of urban surplus labour and the tendency for urban open unemployment exist suggest that the Lewis model offers little analytical and policy guidance for solving development and employment problem in labour surplus LDC. This is more so as there exist marked differentials in the early stages of development of the countries that Lewis studied and those, we would today apply it today especially in the light pattern of population growth, changes in birth control, foreign aid on food and medicine etc. This implies that the situation in modern day developing countries may be more precarious and complicated than implied by the Lewis assumption.

A typical description of dualism as model of economic transformation would only fit the Nigerian case in the sense of the mutual co-existence of the traditional sector and the modern sector, with the introduction of capital-intensive agriculture. Because land–labour ratio is sufficiently large in Nigeria, it makes it difficult to speak of unlimited supply of labour since the marginal product of labour in Nigeria is not zero. What is in super abundance is land not labour. The theoretical problem therefore is "development with unlimited supply *(utilization)* of land"

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