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TYPOLOGY IN DEVELOPMENT THEORY: THE LAND SURPLUS ECONOMY (NIGERIA)†

I. INTRODUCTION

Implicit in the emergence of the subdiscipline of development economics are assumptions that the economies of the underdeveloped world have much in common and that the differences among them are insignificant relative to those between them and the economies of the "developed" world. Though some disagreement remains, the consensus now seems to be that these assumptions are, broadly, justified. There *are* limitations to the universal applicability of an economics developed in the context of the special case of the rich, industrial nation, as Seers has recently emphasized (*22*).

At the same time there is a growing realization, among those engaged in the study of underdeveloped areas, that there exist significant differences among the underdeveloped economies, that some of the accepted generalizations of the development literature are not valid, and consequently that this twofold distinction among the world's economies may not be enough.[1] There is thus a major need for the establishment of a meaningful typology through which different economic models may be employed for different types of underdeveloped economies.

If it is a typology which we seek, by what criteria ought we to "type"? One can think immediately of a number of possible criteria for classification. (One of the most common is a geographical one—the accident of attachment to one continent or another—but this may be of very little economic relevance.) Size (measured by population or national income) and level of development (per capita income or more "physical" measurements like per capita electricity output) are obvious possibilities. So are the degree and effectiveness of national planning, and the degree of openness of the economy. The relative size or structure of the industrial sector might also be employed. Most attention has been focussed,

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[1] For example, Myint has suggested that "Instead of a monolithic theory to cover all the underdeveloped countries it will be more fruitful to look for alternative theoretical models to suit different types of underdeveloped country" (*18*, p. 14). Similarly, Fei and Ranis note that ". . . when we contrast the small, necessarily trade oriented, case of Honduras with the larger, domestically oriented, case of India, or recall that Argentina sports a higher per capita income than Japan, it is not likely that a universally valid theory applicable to Israel, Burma, and Guatemala is in the offing" (*5*, p. 3).

however, on two other types of criteria: (1) the character of the export industry, and (2) factor endowment characteristics.

II. VARIATIONS IN THE CHARACTER OF EXPORT INDUSTRIES

The character of the export industry has been emphasized by most who have sought to categorize African economies. The United Nations distinguished between two "prototypes" of African economy: one, in which growth has been achieved through a transformation of the traditional economy (usually through agricultural exports), and with a minimum of foreign investment or outflow of wage earners from the traditional to the "modern" economy; the other, in which foreign capital, entrepreneurship, and (modern) technology have developed the economy and in which there is a relatively large flow of workers from the traditional to the modern economy (*26,* pp. 8–12). Hancock's distinction between the "trader's frontier" and the "settler's frontier" is roughly similar (*10*). Harwitz has suggested a typology involving still further subclassification not only on the basis of the control over factors of production other than labor in the export (and import-competing) sector, but also on the technology of the sector, the sources of capital for infrastructure, and the role of import-competing goods in markets for importables (*11*). The most useful of these distinctions is that based upon the technology of the foreign sector; within the general category of foreign enclaves, a distinction may thus be made between the plantation economies and the mining economies. The stage has thereby been set for someone to compare the implications of developing via three types of exports: (1) peasant agriculture; (2) mining; and (3) plantations.[2]

Such a comparison will not be undertaken here. One aspect of the problem does, however, deserve to be mentioned. The preoccupation of the development literature with "enclave economies"—the second and third categories mentioned —is, on the face of it, surprising. Since well over half of the national incomes and an even greater proportion of total employment in the underdeveloped areas are usually found in the backward, traditional agricultural sectors, the peasant exporting economies deserve closer attention. These economies have expanded in the manner in which all the underdeveloped areas must ultimately expand —through change in the rural sector. Even enclaves usually purchase some inputs domestically; as soon as they do, there develops a peasant "exporting" economy. The development experience of the peasant exporters may therefore serve as a model of quite general applicability. How does development based upon peasant agriculture differ from that based upon mining or plantation agriculture? An analysis phrased in terms of differences in factor input coefficients, income distribution, linkage effects, infrastructural requirements, and other external benefits would certainly prove rewarding.

III. VARIATION IN FACTOR ENDOWMENTS

The second major type of criterion for classifying underdeveloped economies is based upon relative factor endowments—in particular, those of labor and land. The literature upon the underdeveloped areas has been peculiarly slanted in the

[2] For some approaches of this type, see *18,* chs. 3 and 4; *20,* esp. chs. 7 and 10; *13*; *1*; *27.*

direction of one type—the so-called "labor surplus economy." Such an economy is characterized by extreme population pressure on limited land and the presence of disguised unemployment in agriculture. This situation may be depicted (in the manner employed by Ranis and Fei) on a conventional two-factor production isoquant diagram (*5*, p. 12). Production isoquants are shown in Chart 1 as P_1 to P_5, production increasing as one moves to the northeast. The usual assumptions regarding constant returns to scale, homogeneity of the factor inputs, and fixed technology are employed. OB and OC are ridge lines showing the limits beyond which further additions of only one factor (land and labor respectively) will contribute nothing to total production.

Suppose that OL represents the fixed quantity of land in the economy. Then the classical labor surplus economy is represented by the locus of points along LP_5 which fall to the right of the ridge line OC (which intersects LP_5 at M). Along MP_5, further additions to the supply of labor have no effect upon output; the marginal productivity of labor is zero. Given the stock of land, OL, any labor supply greater than ON is redundant. The principal concern then is to find ways of absorbing and employing productively this redundant labor.

There exist many situations in which this model does not fit. Large sections of Africa and Latin America do not have redundant rural labor.[3] The universally rapid rates of population growth may be propelling these regions toward a labor-surplus status; they remain, however, "labor scarce" or "land surplus"

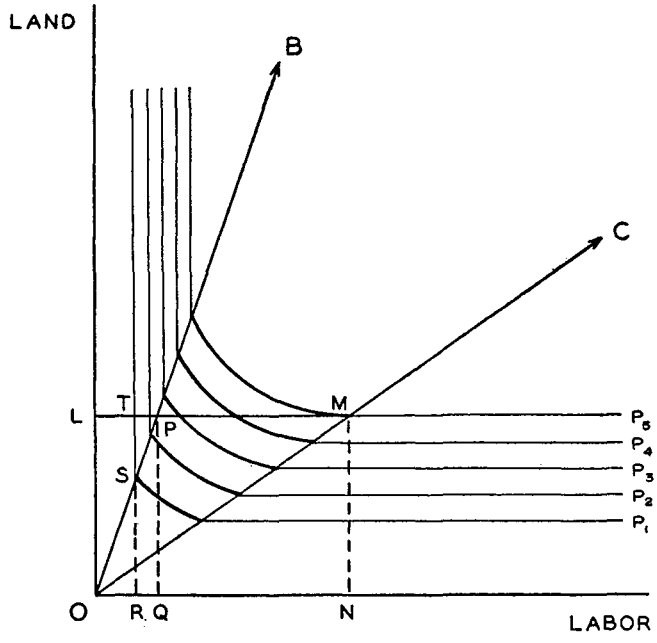

CHART 1

[3] Debate continues to rage as to whether disguised unemployment ever exists at all. For a summary of the issues see, for example, *12*. It is also worth mentioning that the land input may not be as fixed as the labor-surplus approach requires, even in those areas where this approach fits best. For example, see *21*, p. 450.

economies. The land surplus economy cannot therefore be sloughed off in a footnote as a theoretical curiosity as Ranis and Fei seem to do (*5*, p. 11).

In terms of Chart 1, and assuming the same fixed quantity of land (OL) as before, the land surplus case is represented by the locus of points along LP_6 to the left of the ridge line OB (which intersects LP_6 at P). As long as the supply of labor is less than OQ (equal to LP) there exists redundant land. That is, part of the stock of land available for cultivation contributes zero to total output, that part being given by the distance between the ridge line OB, at the relevant labor supply, and LP; for example, if the labor supply is OR, redundant land (land not being put to productive use) is given by ST. The development problem in economies of this type cannot be phrased in terms of mobilizing underemployed labor. Rather, it must take the form of raising labor productivity; among the means for this may be the mobilization of underutilized land.

It is obvious that between the two extremes of the labor surplus and the land surplus economies there lies a locus of points, PM, depicting the range of cases for which neither factor of production is redundant and in which the proportions in which factors are put to productive use are variable. If to this three-way classification scheme—land surplus, variable factor proportions (neoclassical), labor surplus (classical)—one adds an exogenously growing supply of labor, one of the few universal phenomena of the underdeveloped world, one has the beginnings of a stage analysis of growth in the rural sector.

IV. "LAND SURPLUS" AND "LABOR SURPLUS" ECONOMIES

Does the introduction of the case of the land surplus economy add anything to an understanding of development? To provide some flesh to this skeletal analysis, consider its application to the historical growth and present position of the Nigerian economy which is based to a very great extent on peasant agriculture. Most of traditional agriculture in Nigeria has long employed shifting cultivation or "bush fallowing" techniques,[4] the principal features of which are the "rotation of fields rather than of crops; clearing by fire, ... short periods of land occupancy and long periods of fallow." This is clearly a very land-intensive technique suitable for adoption where land is not in short supply, where animal manure is unavailable and chemical fertilizers unknown, and where "soils, over wide areas, are of only moderate fertility and liable to rapid exhaustion under crops" (*3*, pp. 103, 104). Through trial and error the peasant farmers arrived at suitable lengths of fallow time for various areas and crops. Since land in earlier times was essentially free, except for clearing costs, such land-intensive techniques were economically sound. Stamp has commented that "the native farmer has evolved a scheme of farming which cannot be bettered in principle even if it can be improved in detail" (*24*, p. 32).

The land-intensive bush fallowing technique may be represented in Chart 1 by the ray OB; there exists no more land-intensive technique. As the population rose and fell in earlier times, in response to wars, slave raiding, disease, etc.,

[4] "Shifting cultivation" is not perfectly correct usage in the Nigerian context. Cultivation was permanent in that individual peasant farmers did not, in general, shift their place of abode. (The nomadic Fulani, of course, constitute an exception.) They shifted only the land which they worked. "Bush fallowing" is therefore a better description of their practices (*24*, p. 35).

the Nigerian economy traveled up and down the ray OB, always well below the point P at which land ceases to be redundant. At this early stage, labor was clearly the limiting factor on the growth of total output. If there were constant returns to scale, increased or decreased output resulting from increased or decreased population would not have altered per capita output. It might be more realistic to postulate some increasing returns to scale, but this does not alter substantially any of the argument.

Early in the twentieth century Nigerian exports of agricultural produce to Europe expanded enormously. Between 1900 and 1929 an export volume index shows a fivefold increase.[5] The weight of the export sector in aggregate domestic product was at that time small; nevertheless expansion was, in the aggregate, sufficient to imply that some important changes were taking place in the peasant economy. Apart from the introduction of new crops and their associated technologies, the increased volume of agricultural production was achieved through increases in inputs of land and labor with technology basically unchanged. (See, for example, *19*, pp. 320–21.)

At that time, there was abundant land in most parts of the country. There existed no reason why more could not be brought into use with unchanged levels of technology. Population in Nigeria is believed, however, to have been fairly stable during this period; only after 1925 did it begin to increase.[6] Where then did the required extra inputs of labor originate? Since there is little evidence of their having been obtained at the expense of shrinking material or service production for domestic use, they must have been the result of a reduction in leisure and other "unproductive" pursuits.[7]

It appears that in this land surplus economy there existed a considerable (potential) "agricultural surplus," consisting not only of unutilized land but also of unutilized labor, which could be mobilized for the expansion of material output. This surplus differs conceptually from the disguised unemployment which is stressed in the literature on labor surplus economies. The mobilizable man hours of labor in a land surplus economy have a positive marginal product in agriculture; they are unemployed as a matter of conscious preference for leisure over additional material output, at prevailing prices and the existing level of technology. Their unemployment is not the result of their inability to raise material output with further increases in labor inputs. Basically, it is the result of deficient demand for their material output. The external manifestations of these two distinct types of mobilizable agricultural surplus are familiar—the stereotyped picture of men sleeping under trees or standing idly around; more important, though their explanations are quite different, they are identical.

This may be depicted very simply in a diagram (Chart 2) showing a conventional total product curve and the physical output demanded, with the existing scale of preferences, by different quantities of labor in the traditional

[5] The index in question is one computed by the author for use in a forthcoming study of growth in the Nigerian economy.

[6] Data are quite unreliable. It is generally assumed, however, that Nigerian population increased at a rate of about 0.6 per cent per annum from 1925 to 1940 and has risen to 2 per cent or more since then (*23*, pp. 164–66).

[7] There is room for argument concerning this point. Some may have been diverted from service activities and even from local handicraft and other material production rather than from leisure. To date, there is insufficient evidence for the case to be conclusive.

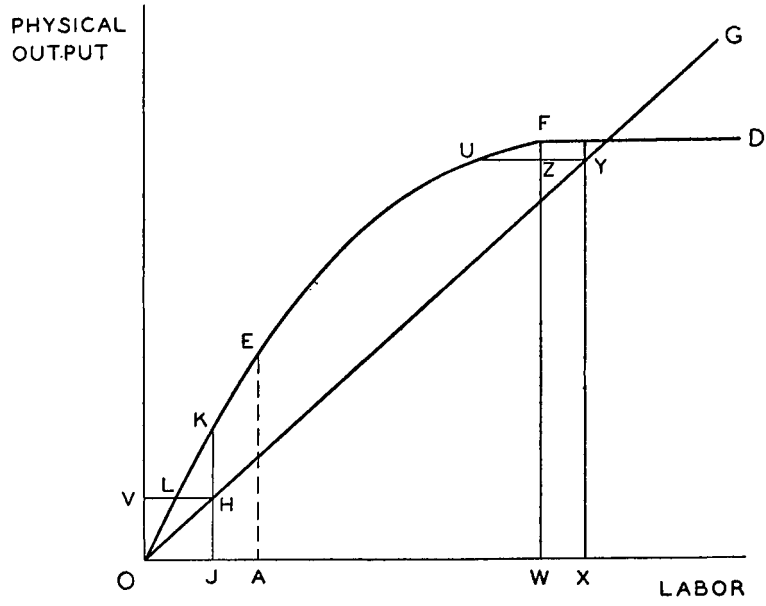

CHART 2

society.[8] Labor inputs (actual or potential) are measured along the x-axis, output on the y-axis. Up until point E, on the total product curve OD, land is redundant and there are no diminishing returns; OA on Chart 2 thus corresponds to OQ on Chart 1. Beyond F, further additions to the labor input yield no extra output—labor is redundant, thus OW on Chart 2 corresponds to ON on Chart 1. The straight line OG shows the traditional levels of production of agricultural produce by varying sizes of labor force, assuming that the labor force is an unchanging proportion of population and that the traditional per worker demand, and therefore output, is constant at $\frac{HJ}{OJ}$.[8a] At all points to the left of the intersection of OD and OG there is a mobilizable surplus which is the result of preferences such that demand falls short of capacity. For example, if the available force is given by OJ, it will be content to consume only HJ although it is capable of producing JK. There exists a surplus of HK in terms of potential output or LH in terms of labor, since VL is all the labor which is needed to obtain an output of HJ. It is clear that the marginal product of labor in this range is high; yet LH of labor remains at leisure (unemployed). Disguised unemployment arises only when the labor force exceeds OW. (It is possible for disguised unemployment conditions to exist at the same time as mobilizable leisure if OG intersects OD to the right of F. If the labor force were, for example, OX, the Nigerian type of potential labor surplus would be UZ, disguised unemployment would be ZY.)

[8] This diagram is somewhat similar to one employed by Fisk (*6*).

[8a] Strictly speaking, OG ought to begin to bend southward when the labor input reaches OA (equal to OQ in Chart 1), since, as will be seen below, traditional per worker demand is not constant but is related to the production function. I am indebted to Shane J. Hunt for this point.

The story of Nigerian export growth during this early period and, for that matter, until the middle of the 1950's (between 1929 and 1955 export volume more than doubled) was in most areas that of the increasing of land and labor inputs operating with fixed proportions at constant returns to scale. Productivity per man was thereby increased; productivity per acre or per man hour, however, scarcely changed at all, except as value productivity was increased by changes in the product mix. Nigeria's labor force, that is to say, was in most places less than OA in Chart 2 (OQ in Chart 1). Output increased because the terms at which leisure could be, and was, traded for material goods altered. In terms of the diagram, OG moved gradually in a counter-clockwise direction.

The change in the slope of OG, that is, in output per worker, may best be explained through still another diagram. Chart 3 depicts, in the upper quadrant, the total physical product curve for an individual farmer. For the sake of simplicity, let us assume that all farmers have an equal share of the total supply of land;[9] the total product curve for the individual therefore bears the same shape as that for the economy as a whole except that the scale is proportionally smaller. In the range for which total labor is less than OA the total product curve is a straight line, as is shown in Chart 3. The farmer's individual labor input, out of a possible total of OC_1 (excluding that which is required for sleeping, eating, etc.) is measured from C_1 westward; the difference between the potential total and the actual input, of course, constitutes leisure. In the lower quadrant is the individual farmer's total product curve, expressed in terms of value rather than physical units, and a set of indifference curves, expressing the relationship which material income (value of output) and leisure bear to his utility. For simplicity, again, let us assume that all farmers possess the same utility function (indifference curve map).

To any given level of technology and any given level of prices for his output there corresponds a transformation curve such as C_1V_1, along which the farmer may trade off his leisure against higher material income. He will select that point on C_1V_1 at which his utility is maximized—that point being T_1, where C_1V_1 is tangent to the highest attainable indifference curve U_1. At that point this subjective evaluation of the rate at which labor should be transformed into material income corresponds to the rate at which it can be physically so transformed in the market. From T_1, one can read off the labor input C_1E_1 and the physical output E_1F_1 from the upper quadrant. Physical output per worker, E_1F_1, is equal to the slope of OG in Chart 2. Given the utility function of the farmer (similar for all farmers), the price level, and the level of technology, increases in the labor force (which, by an earlier assumption, is a constant proportion of the population) thus produce northeastward movement along the straight line OG in Chart 2.

The appearance of external markets for the products of the Nigerians' land and labor had the effect of raising the price of their produce; this price increase took the form of the offering of greater prizes—cloth, weapons, salt, etc.—than had ever been available before. A price increase is represented by an increase in the slope of the transformation curve in the lower quadrant of Chart 3—the

[9] For a related treatment in which the farmers have different land endowments, see *16*.

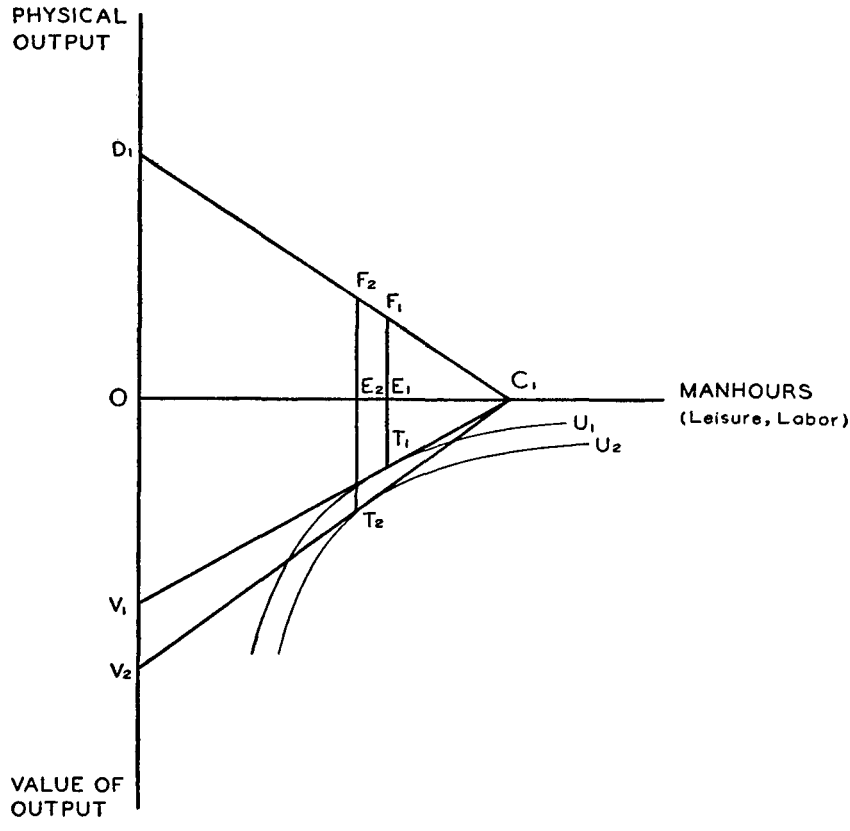

CHART 3

transformation curve changes from C_1V_1 to C_1V_2. The response of the farmer to the higher price is determined by the pattern of his map of indifference curves. The substitution effect operates so as to raise his input of labor; on the other hand, the income effect operates so as to raise his demand for leisure (and thus diminish his labor input). The indifference curves have been drawn in such a way that higher prices produce greater labor inputs (diminished leisure). At T_2, for instance, physical output per worker has risen to E_2F_2 (which is equal to the slope of a new OG curve on Chart 2). The Nigerian peasant producer apparently responded to improved prices in just this manner—by increasing his labor (and land) inputs so as to raise his output.

The better prices were gradually pushed out to more and more remote areas; more and more individual peasants were thus induced to sacrifice some of their leisure. At the same time the improvement of transport facilities enabled the traders, through their middlemen, to offer more and more attractive terms to the producers for their produce. These peasant producers could thus be induced, with unchanged utility functions, to abandon still more of their leisure in favor of the labor required to produce further exportable output. There was probably also occurring a continuing shift of producers' preferences away from less "productive" activities and leisure towards the material goods which could be obtained

through trade, which also tended to raise labor inputs. Thus the whole indifference curve map in Chart 3 was shifted (southwestward) such that the same price induced the sacrifice of a greater quantity of leisure. In the last four decades, Nigerian population has begun to expand as a result of the elimination of slave trading and local warfare, and the introduction of modern medicine. Labor inputs have thus recently been increasing both through continuing increases in labor participation and through population growth.

Given the abundance of land, these increased labor inputs could be matched for a long time by increased land inputs, leaving the existing land-intensive techniques unchanged. In Chart 1 this is represented by movement in a northeasterly direction along OB, leaving ever smaller quantities of land redundant.

Ultimately, however, if labor inputs continue to increase they will reach that level (depicted by OQ in Chart 1, OA in Chart 2) at which land ceases to be redundant. Diminishing returns set in. Some areas within Nigeria, characterized for historical reasons by initially high population densities, must have reached this stage fairly early. When population began to press upon the available land, there being no further lands which could be brought into cultivation, the technique of unlimited bush fallowing had to be altered. Further increases in cultivated area could only be obtained by reductions in fallow periods; such increases, however, were no longer subject only to the costs of clearing, since shorter fallow periods produce lower yields and soil erosion. The marginal cost of land was now the sum of the cost of clearing it *and* the loss in yields, appropriately discounted, suffered in subsequent years, on all affected lands, as a result of reducing fallow periods; and it rose with further increases in the use of land. Land had become "scarce." In some cases, declining soil fertility resulted in switches from crops requiring a fairly high level of soil fertility to others more tolerant of poor soils.[10]

This reduction in fallow periods constitutes a move towards a more labor-intensive (less land-intensive) technique, as land grows progressively scarcer. Although the factor proportions on land under *cultivation* (that is, land not under fallow) may, for a time, remain unchanged with further increases in inputs of labor, labor inputs per acre of land in some sort of use (both under cultivation and fallow) rise because of the falling proportion of land which is in fallow. As labor inputs continue to expand there will come a point at which it is more efficient to allow the labor–*cultivated land* ratio to rise rather than to reduce fallow periods further. From then on further increases in labor inputs will result both in increases in the labor-intensity of cultivation practices on nonfallow land and in the proportion of cultivable land actually under cultivation each year. Whatever the form which this increasing labor-intensity takes, it is depicted on Chart 1 as rightward movement along LP_5 from P towards M. Each additional labor input above the quantity OQ and below ON results, given the fixed quantity of land OL, in a new (more labor-intensive) production technique. Once ON is

[10] For an interesting account of the gradual change from low-population-density agriculture pushing outward on the extensive margin to a new environment characterized by population pressure, soil depletion, and resulting changes in crops and cultivation practices, see *15*. It demonstrates the remarkable adaptability of the Nigerian peasant farmer to changing ecological and economic conditions.

reached, further additions to the labor supply have no production effect; since there exist no more labor-intensive techniques, the economy has reached the labor surplus stage. The labor surplus economy is thus seen as the final stage of a process of population growth (and increased labor participation) operating on a fixed supply of land.

V. CLASSIFYING THE NIGERIAN ECONOMY

At what stage is the Nigerian economy today? As soon as one asks this question perplexing problems arise. Generalizations applicable to the whole economy seem impossible.

Parts of Nigeria resemble the overpopulated Asian rural economy which the labor surplus model is intended to describe. (It might be mentioned that outside labor frequently is required at peak seasons even in areas of high population density in Nigeria.) In the southern Onitsha, northern Owerri, and Annang-Uyo districts of the Eastern Region population density exceeds 800 per square mile; in some parts, it is 1000 per square mile (*25*, p. 79). There, inadequate fallowing has produced "progressive [land] degeneration" (*3*, p. 105)—the conversion of forest land to grassland and serious gulleying (erosion). Food production is insufficient to meet the needs of the local rural population and there is considerable emigration to the cities and other parts of Nigeria. If this area can be considered as a separable part of the country it must be treated in the conventional manner as a labor surplus economy.

Not quite as high man-land ratios, but still probably high enough to make the labor surplus model applicable,[11] are found in the "close-settled zone" of about 1000 square miles surrounding the northern city of Kano (*17*). Lesser, though substantial, rural concentrations of population are found to the southeast of Katsina and the north of Zaria, both in the Northern Region (*9*, p. 118). A description of these parts of the Northern Region sounds remarkably similar to those commonly heard of the overpopulated portions of the East. For example (*8*, p. 51),

> There is insufficient land fully to occupy the capacities of many of the farmers; the land is not rested; crops are grown on soils which are not very well suited for tillage; and the common grazing-land is seriously impoverished and eroded.

Despite the presence of a few such labor surplus areas, however, the great bulk of the Nigerian rural landscape is one of very low population densities. Among the fertile areas wherein particularly low man-land ratios are found are the "Middle Belt" (southern part of the Northern Region), the northeast parts of the Northern Region, the Cross River Plain and other eastern portions of the Eastern Region, and parts of the Niger Delta. Grove has estimated that in western Bornu, where population density is 25 per square mile, only about one quarter of the land which could be cultivated is under crop or bush fallow (*9*, p. 119). There exist many areas where population density is equivalent or

[11] Man-land ratios, by themselves, do not tell enough about the rural economy to enable one to classify it as labor surplus or otherwise. The character of the soil, water supplies, and so on are also relevant.

less and where soil fertility is equivalent or better. If these areas may be considered as separable subsectors of the Nigerian economy, in the same manner as the labor surplus areas, they must be regarded as "land surplus" (or labor-scarce) economies. In addition to these differences within Nigeria, a further complication is introduced by the fact of widespread urban unemployment in Nigeria. Not a new problem,[12] it has been aggravated in recent years by the outpouring of semi-literate "school leavers" badly equipped for urban employment yet unwilling to farm (*4*). The urban areas, it seems, have become labor surplus economies too.

Nigeria thus has areas both of surplus labor (to the right of OC in Chart 1) and of surplus land (to the left of OB in Chart 1). It also has areas, with differing labor-cultivated land ratios and lengths of fallow periods, which lie between these two extremes. In the aggregate, the labor-surplus model clearly does not apply to Nigeria; neither, however, do the land-surplus model, or any of the "normal" situations between, satisfactorily fit the facts. How does one establish a shadow price for labor? What framework is most suitable for the analysis of the Nigerian economy?

This raises the question as to whether one may legitimately break down an economy into constituent areas characterized by different production techniques and to which different models apply. If national, regional, or other significant boundaries corresponded to the relevant economic ones there might be little protest at such a procedure; employing it, however, to distinguish urban from rural areas would always be difficult to justify. In Nigeria, despite considerable seasonal labor movements, rural and urban-rural mobility of labor on a permanent basis seems limited by tribal and cultural differences, traditional attitudes to land and tenure arrangements, and inadequate infrastructure (including transport facilities) in the underpopulated areas. The movement of labor from labor surplus areas to land surplus areas, the obvious solution to the prevailing factor imbalances, is not an easy matter. The few government attempts to assist such resettlement have been uniformly unsuccessful.[13] On these grounds, the use of different models for different parts of the country, and for urban and rural areas, seems to be justified.

This procedure requires, however, acceptance of a second-best solution. Given overpopulation in the cities and some of the rural areas, the shadow price of labor *in these areas* must be close to zero. The presence of redundant land within the same national economy ensures, however, that its marginal productivity (elsewhere) is potentially high. Are the immobility problems truly insuperable? There have, after all, been spontaneous population movements, at least within the same region, in response to the economic opportunities offered by developing cash crop production in new areas and the pressure of population upon the land. Such influences certainly appear to explain the opening up of the newer cocoa, groundnut, and cotton producing areas.[14] The development of a national

[12] Before the war, one observer had commented upon the "juveniles without employment or parental control who form a noticeable feature of the West African towns" (*2*, p. 30).

[13] Although this has not prevented the FAO from recommending further efforts to promote resettlement in the Middle Belt in its recent (still unpublished) report to the federal government.

[14] One of the few documented examples of such movement is that from the overpopulated northern areas of Katsina Province to the less crowded areas a little to the south (*14*, p. 115). The whole area of agricultural practices, labor mobility in the rural areas, and the causes of changes in the characteristics thereof is badly in need of research.

transport network and the growth of national consciousness will undoubtedly speed the process of labor "mobilization." That labor *will* move is dramatically proven by the continuing rural-urban migration which is found throughout Nigeria. There seems to be no limit to rural-urban mobility, a type to which there happens to exist few barriers. (This rural-urban flow, incidentally, has not been proven to be inevitable and persistent. It is worth recalling that only ten years ago urban employers in the Western Region complained of their inability to find laborers because of their high alternative earnings on the cocoa and rubber farms, 7, pp. 211–15.)

There are reasons, then, for employing one model for the entire economy—reasons grounded in optimism as to the mobility of labor. It is labor mobility, it should be remembered, which is at the root of the mobilization problem in "conventional" analysis of the labor surplus economies. If labor is permitted in these latter models to move from agriculture to industry, it should be permitted in others to move among rural areas and from urban to rural sectors. In the aggregate, if aggregation is thus permitted, Nigeria cannot be considered a labor surplus economy; if its labor were appropriately spread over the country it would undoubtedly still have redundant land.

All of this begs many questions. One would like to know, for example, how great is the output at present foregone as a result of the presence of substantial pockets of surplus labor within a land-redundant economy such as that of Nigeria. It would be valuable to know the nature of the most important barriers to labor mobility. What would be the cost of overcoming them through a variety of alternative policies, including the appropriate manipulation of prices through the fiscal system? How does this cost compare with alternative methods of raising agricultural (or other) output? And so on.

VI. CONCLUDING REMARKS

What purpose is served by the use of the typology or stage analysis which has been presented here. If it substantially illuminates historical patterns of change or cross-sectional differences at a point in time, it makes a positive contribution. If its use results in the asking of important factual or policy questions, it may be still more beneficial. This paper has employed it to demonstrate that labor surplus economies are today (and, *a fortiori*, always have been) far from universal; that, where they exist, they are the end result of a continued application of labor inputs to limited land and thus may represent a stage in development still to come in today's areas of land surplus; that there may exist an "agricultural surplus," which can be mobilized, even in a land surplus economy; and that problems of labor mobility may be in the forefront not only in labor surplus economies but also in economies which, in the aggregate, have surplus land. None of these points are new ones but they need to be pulled together into a unified framework. This having been said, it must immediately also be pointed out that this particular typology will probably become less and less relevant to policy questions in the underdeveloped areas. As the pace of technical change increases and as improved technologies are gradually extended to the more backward rural areas of the world, changes in the quantities of the factor inputs or

differences in their proportions will be dwarfed by the changes and differences in the relationships between factor inputs and output.

CITATIONS

1 R. E. Baldwin, "Export Technology and Development from a Subsistence Level," *Economic Journal* (London), March 1963.

2 Major G. St. J. Orde Browne, *Labour Conditions in West Africa* (Cmnd. 6277, H.M.S.O., London, 1941).

3 K. M. Buchanan and J. C. Pugh, *Land and People in Nigeria* (London, 1958).

4 A. C. Callaway, "School Leavers and the Developing Economy of Nigeria," in *Nigerian Institute of Social and Economic Research, Conference Proceedings* (Ibadan), December 1960.

5 J. C. H. Fei and Gustav Ranis, *Development of the Labor Surplus Economy: Theory and Policy* (Homewood, Illinois, 1964).

6 E. K. Fisk, "Planning in a Primitive Economy: Special Problems of Papua–New Guinea," *Economic Record* (Melbourne), December 1962.

7 R. Galletti, K. D. S. Baldwin, and I. O. Dina, *Nigerian Cocoa Farmers, An Economic Survey of Yoruba Cocoa Farming Families* (London, 1956).

8 A. T. Grove, *Land and Population in Katsina Province* (Govt. Printer, Kaduna, 1957).

9 ———, "Population Densities and Agriculture in Northern Nigeria," in K. M. Barbour and R. M. Prothero, eds., *Essays on African Population* (London, 1961).

10 W. K. Hancock, *Survey of British Commonwealth Affairs II, Problems of Economic Policy 1918–39* (London, 1942).

11 Mitchell Harwitz, "Subsaharan Africa as a Growing Economic System," in M. J. Herskovits and Mitchell Harwitz, eds., *Economic Transition in Africa* (Evanston, Illinois, 1964).

12 H. C. Kao, K. R. Anschel, and C. K. Eicher, "Disguised Unemployment in Agriculture: A Survey," in C. K. Eicher and Lawrence Witt, eds., *Agriculture in Economic Development* (New York, 1964).

13 J. V. Levin, *The Export Economies, Their Pattern of Development in Historical Perspective* (Cambridge, Mass., 1960).

14 H. A. Luning, *An Agro-Economic Survey in Katsina Province* (Govt. Printer, Kaduna, 1963).

15 A. L. Mabogunje and M. B. Gleave, "Changing Agricultural Landscape in Southern Nigeria: The Example of Egba Division, 1850–1950," *Nigerian Geographical Journal* (Ibadan), June 1964.

16 J. W. Mellor, "The Use and Productivity of Farm Family Labor in Early Stages of Agricultural Development," *Journal of Farm Economics,* August 1963.

17 M. J. Mortimore and J. Wilson, *Land and People in the Kano Close-Settled Zone* (Ahmadu Bello University, Dept. of Geography, Occasional Paper No. 1, Zaria, March 1965).

18 H. Myint, *The Economics of the Developing Countries* (London, 1964).

19 ———, "The 'Classical Theory' of International Trade and the Underdeveloped Countries," *Economic Journal* (London), June 1958.

20 S. D. Neumark, *Foreign Trade and Economic Development in Africa* (Stanford, Calif., 1964).

21 H. T. Oshima, "The Ranis-Fei Model of Economic Development: Comment," *American Economic Review,* June 1963.

22 Dudley Seers, "The Limitations of the Special Case," *Bulletin of the Institute of Economics and Statistics* (Oxford), May 1963.

23 J. J. Spengler, "Population Movements and Economic Development in Nigeria," in R. O. Tilman and Taylor Cole, eds., *The Nigerian Political Scene* (Durham, North Carolina, 1962).

24 L. Dudley Stamp, "Land Utilization and Soil Erosion in Nigeria," *The Geographical Review,* January 1938.

25 R. K. Udo, "Patterns of Population Distribution and Settlement in Eastern Nigeria," *Nigerian Geographical Journal* (Ibadan), December 1963.

26 United Nations, Department of Economic and Social Affairs, *Economic Survey of Africa Since 1950* (New York, 1959).

27 M. H. Watkins, "A Staple Theory of Economic Growth," *Canadian Journal of Economics and Political Science* (Toronto), May 1963.