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CONSUMER DEMAND IN NIGERIA[1]

by Ian G. Stewart

I. SOME GENERAL OBSERVATIONS

THERE are two good reasons fundamentally for inquiring into consumers' behaviour. The first of these is that data on consumption comes nearer than data on either production or on incomes to providing a yardstick or measure of current material welfare. The second reason is that throughout a large part of what people consume there is the strong stabilizing force of inertia or habit or commitment at work which has encouraged the economist to believe that prediction may be a permissible exercise. In this paper I shall say something in Section II which follows, about currently available estimates of consumer expenditures, aggregate and partial, in the Federation of Nigeria, and then proceed to discuss in Section III ways and means of establishing in practice certain determinants of the level and pattern of consumption in the next five to ten years.

It is a reflection of the difficulties which confront economists and statisticians working in Nigeria that at the time of writing (October 1960) there is still only one comprehensive account of that country's national income. I refer, of course, to Prest and Stewart's estimates for fiscal 1950–1.[2] The Federal Government published in 1959 its first *Economic Survey*[3] which contained conjectural figures relating to the nation's aggregate product and expenditure for the fiscal year 1956–7. The second substantive set of national income accounts to be published during 1962 has formed the basis of the paper contributed by Dr. P. N. Okigbo in this volume. His estimates relate not only to 1957, the benchmark period of his study, but also to the years intervening since 1950–51, so that a continuous series of a kind for aggregate output and expenditure is available.

[1]I acknowledge the helpful comments and advice I have received from Professor Alan Peacock and Mr. Roderick Ogley in the preparation of this paper. I wish to express my appreciation of the financial assistance given to the Department of Political Economy, University of Edinburgh, by the United States Department of Agriculture, on whose behalf the study described in Section III of this paper is being conducted.

[2]A. R. Prest and I. G. Stewart, *The National Income of Nigeria 1950–51*, H.M.S.O., London Colonial Research Studies No. 11.

[3]*Economic Survey of Nigeria 1959*, Federal Government Printer, Lagos, 1959.

At a time when Nigeria is contemplating ambitious projects a series of this sort can be invaluable, especially if it provides a corrective to the too prevalent view that the Nigerian economy has been growing rapidly in recent years. On the basis of the latest agricultural information available, which relates to a triennial period 1956–8, it would appear that gross farm output has risen in constant 1950–1 prices by not less than 15 per cent but not more than 42 per cent over the seven years 1950–1 to 1956–8. When allowance is made for depreciation, which may be quite small, and for population changes, which may have been quite large, it is doubtful if net farm output per head can have been rising at much over 1¼ per cent compound each year. Since farm products constitute between 55 and 65 per cent of the annual product, i.e. they exercise a predominant weight in any index of production movements in Nigeria, to have achieved an annual increment in G.N.P. as a whole of 4 per cent per caput implies very remarkable progress indeed in the distributive, constructional and (embryonic) manufacturing sectors.

I emphasize this background to national income estimation in Nigeria, first of all because without it any discussion of consumption would be out of perspective; secondly, in order to draw attention to the comparative lack of material, which may serve both as a word of caution to interpreters and of exhortation to practitioners in this important field of study.

There is one other general observation which may be helpful in an understanding of Nigeria's present economic position in relation to other nations in the African continent. Following from the well-known propositions that as incomes rise (*a*) the marginal propensity to consume and (*b*) the proportion of food consumption expenditure to aggregate expenditure tend to fall, a useful indication of relative stages in economic development may be derived quite simply by comparing these two ratios for different countries. One advantage of this formulation is, of course, that like Lorenz curves of income distributions, international comparisons in ratio terms are less fallible than comparisons between values expressed in different currencies. In theory, one could compare ratios of changes in private consumers' expenditures to changes in disposable personal incomes from country to country. In practice, however, it is still not possible in most of the less-developed countries to calculate marginal propensities; for one thing, the relationship between

disposable personal income and gross domestic product is not always sufficiently well established statistically. In Nigeria, all that one can do is to look at the ratio of private consumption expenditure to gross domestic product at factor cost,[1] and make a very crude comparison between the values of this ratio for different countries. The proportion in the United Kingdom is roughly two-thirds; in Tanganyika it has been in excess of 90 per cent, while Ghana and Nigeria consume annually and privately about 85 per cent of their domestic product. According to the *Economic Survey of Nigeria 1959*, the Federation devoted roughly 5 per cent of all expenditure in 1956–7 to the Government's current account, leaving gross investment at or near the 10 per cent level. The comparable figures in 1950–1 were 3 per cent and 13 per cent respectively. This, however, cannot be taken to imply that the rate of capital formation has been falling. In 1950–1 rather more than half of Nigeria's gross investment took the form of increases in sterling balances and other assets held outside the country, while in 1956–7, with a reversal in the previously favourable terms of trade, Nigeria was experiencing a fall in sterling balances and a net inflow of longer-term capital. It is perhaps a fairer comparison if *domestic investment* alone is considered over the period, and here estimates that indicate a doubling (from 6 to almost 12 per cent of G.N.P.) are well documented,[2] and consistent with the writer's personal observation of the progress of a building boom in Nigeria during the 1950s. While it is true that data of this kind do not yet exist in sufficient quantity or quality upon which to base any firm conclusions about aggregate savings or consumption functions for Nigeria, it is difficult to see at this stage of the country's political and economic evolution how the ratio of private consumption expenditure to total expenditure can be expected to fall below 80–85 per cent in the next five to ten years.

II. PATTERN OF CONSUMER EXPENDITURE

Turning now to the pattern of private consumer expenditure in Nigeria, one finds that the only period for which an analysis

[1] It is quite possible that a 'correct' comparison of consumers' expenditure at factor cost may be difficult for reasons similar to those advanced by J. L. Nicholson in his article 'National Income at Factor Cost or Market Price' in *The Economic Journal*, Vol. LXV, June 1955.

[2] See *Federation of Nigeria: Digest of Statistics*, Vol. 7, No. 1, and Vol. 8, No. 3; also unpublished doctoral dissertation by A. Aboyade, Cambridge, 1960, on 'Capital Formation in Nigeria'.

by commodity group is available is 1950–1, although the *Economic Survey of Nigeria 1959* estimated how much had been spent in 1956–7 on imported consumer goods and how much on home-produced goods and services, both figures being currently priced aggregates.

Table I gives an indication of the proportions in which the consumption expenditure of the private sector was divided between different commodities in 1950–1.

TABLE I

Expenditure by Nigeria

	1950–1 £ million
Private consumption expenditure	
Food and drink	357·3
Clothing and footwear	55·4
Housing and water	32·1
Fuel and light	22·1
Other household goods	13·1
Cigarettes and tobacco	10·5
Travel (internal)	8·3
Education	2·2
Other services	14·0
Other goods	1·6
Armed forces income in kind	0·1
Total	516·7
Less Total imports (other than Government)	86·5
Total home-produced (other than Government)	430·2

It can readily be seen that out of total private expenditure on goods and services a high proportion – over two-thirds – went on food and drink, while the expenditure on consumer durables, represented by 'other household goods' was very small indeed – a mere 2½ per cent. Despite the absence of later information cast in a comparable form, there is reason to believe that this pattern of consumption has been altering, and in a way that is consistent *a priori* with a positive rate of increase in average income in various parts of the country.

One indicator is the changing level and composition of the volume of goods imported into Nigeria since 1950. Expenditure on imports of consumer goods at market prices appears to have risen from about £86½ million in 1950–1 to about £200 million in 1957–8, which represents a rise in the proportion of consumers' expenditure (at current prices) in respect of imports

from about 15 per cent to nearly 25 per cent during the seven-year period. In other words, any attempt at a general explanation of consumers' behaviour in Nigeria must, if these figures are reliable, give due weight to substitution effects and not concentrate exclusively on income effects.

TABLE II

Federation of Nigeria

Imports by classes, 1954–9

Classes	(£ millions)						(per cent)	
	1954	1955	1956	1957	1958	1959	1954	1959
0. Food	12·0	12·9	16·0	18·3	18·2	20·8		
1. Beverages and tobacco	4·4	5·0	5·3	5·5	5·6	5·8	16·0	15·7
2. Materials	1·5	1·7	1·9	1·9	2·0	2·0		
3. Fuels and lubricants	5·6	6·5	7·3	8·2	8·9	10·4	5·0	5·8
4. Animal and veg. oils	—	—	—	—	—	—	—	—
5. Chemicals	4·8	7·0	7·6	8·0	8·9	10·1	4·2	5·6
6. Manufactures	54·2	60·1	65·3	62·8	65·9	65·9	47·5	36·8
7. Machinery and transport equipment	20·0	27·9	32·3	31·3	39·4	43·9	17·5	24·5
8. Misc. manufactures	9·4	12·3	14·2	13·4	15·5	17·9	8·2	10·0
9. Parcel post, etc.				2·8	2·4	2·6	1·9	1·3
Total	114·1	136·1	152·7	152·5	166·9	179·4	100	100

Table II sheds some light on the way in which the pattern of demand for imported goods in Nigeria has been altering over the last five years. In spite of large increases in local production of beer and cigarettes, the ratio of food and drink and tobacco imports to the total imports scarcely changed from 1954 to 1959. Imports of wheaten flour, refined sugar and meat have risen during the same period by 80 per cent, 50 per cent and 280 per cent respectively, while those of salt and gin have only risen by 9 per cent and 22 per cent respectively. The growth of bakeries in many of the larger towns in Western Nigeria has been a significant step away from the older methods of 'food-processing', an interesting development at a time when bread has become, in the United Kingdom at any rate, an 'inferior' commodity with a negative income-elasticity of demand. Of the larger volume of manufactured imports, textiles make up the

major consumer items, but during the period 1954–9 there has only been a small increase in volumes of textiles imported. There has, however, been a sixfold rise in the number of radio receiving sets and nearly a threefold upsurge in the number of motor-cars entering the country, and in the quantity of bicycle parts for assembly.

The impression one gains is that imports of consumer goods have certainly been keeping pace with the rate at which money incomes have been rising, and have probably been rising more rapidly due to *net* substitution effects (i.e. higher-grade food and durable consumer goods more than compensating for import replacement in the case of, say, tobacco for cigarettes now wholly produced inside Nigeria) than because incomes have, presumably, been rising.

At present, this is as far as one can proceed in the direction of aggregate model-building in Nigeria. Once the national income estimates extend from 1950–1 into a series for subsequent years, the prospects for research and study, and for projections of consumer demand in particular, should reveal a range of most interesting problems.

If the current state of macro-economic data does not yet provide scope for analytical exploration, there are happily wider and increasing opportunities for making use of micro-economic data, concerning the *partial* relationships between household income, occupation and consumption expenditures, classified in the usual groupings.

The Federal Office of Statistics has carried out surveys of urban wage-earning household expenditures in thirteen large towns, starting with Lagos in 1953–4 [1] and extending to each of the three regions at intervals during the following five years. Although the primary objective has been to obtain data on which to construct retail price indices in principal urban areas, the information that has been collected provides a basis for estimating income elasticities of demand for different groups of commodities. So far it would appear that there has been insufficient time for the staff of the Federal Statistician's Depart-

[1] The first published survey dealt with wage-earning households in Lagos, Ibadan and Enugu. Subsequent surveys have added Kano, Kaduna, Zaria, Warri, Benin, Sapele, Ilorin, Port Harcourt, Aba and Calabar to the list. e.g. 'Urban Consumer Surveys in Nigeria – Report on Enquiries into the Income and Expenditure Patterns of Wage-Earner Households in Kaduna and Zaria 1955–56', Lagos, 1959.

ment, who are often hard-pressed by other commitments, to conduct comprehensive econometric analyses based on the family budget material. There is, however, one exception to this statement. In a paper read before the 1958 Conference of the Nigerian Institute of Social and Economic Research at Ibadan, Mr. J. Heads, then one of the Federal Statisticians, made the following observations:

> 'From Urban Consumer Surveys in a number of Nigerian towns, it appears that food expenditure as a proportion of total family expenditure on goods and services is almost three-fifths for labourers, the lowest-paid occupational group. For artisans, the proportion is less than one-half and for clerks, the best-paid occupational group, it is only two-fifths.' [1]

It should be added that 'best-paid' and 'lowest-paid' refer merely to the three groups covered by these surveys, labourers, artisans and clerks; it is not suggested that clerks are better paid than *any* other occupation in Nigeria. Heads used the sample of 171 families interviewed in Ilorin, a predominantly Yoruba town but situated just inside the Northern Region, to derive partial correlation coefficients between (*a*) proportionate expenditure on food and total expenditure and (*b*) proportionate expenditure on food and size of family. From the partial regressions he then obtained an estimating equation for the income elasticity of demand for foodstuffs which, and I quote again,

> . . . 'Would suggest an income elasticity of 0.65 at the average Ilorin sample total expenditure level of 170·61 shillings (per month). The Ilorin income elasticity of demand may not be typical of the rest of Nigeria, but it can hardly be doubted from statistical investigations of consumption patterns that the overall income elasticity of demand for food is less than unity here as in other countries. At higher income levels, imported foods tend to become relatively more important in food budgets and the income elasticity of demand for home-produced foodstuffs is certainly even less than the total income elasticity of demand for food.'

[1] J. Heads, *Urbanisation and Economic Progress*, in Nigerian Institute of Social and Economic Research Conference Proceedings, December 1958 – published by the Institute.

As far as the writer is aware, this represents the first published attempt to apply the apparatus of demand analysis with which the work of Professor Richard Stone,[1] J. A. C. Brown,[2] H. S. Houthakker and S. J. Prais [3] have made us familiar, to Nigerian data. Besides demonstrating what can be done for urban areas with rather limited information, Heads's paper suggests by implication two other directions in which 'scarce statistical and economic skills' might be profitably employed. The more important of these is the collection and analysis of information culled from a *small* number of carefully selected rural areas – only one in every five of Nigeria's 35 or 36 million people live in towns having 5,000 or more persons – so that important decisions of agricultural, fiscal and trading policy may be based on at least a methodical, if not yet an accurate assessment of the economic implications of the popular drift to the towns. If it could be demonstrated statistically that, for example, the marginal propensity at any given level of money income of urban households to buy imported foodstuffs, textiles and other domestic articles for consumption is x per cent greater than that of rural households at the same level of money income, then important consequences for the balance of trade, especially for the import of capital goods, would flow from any marked tendency on the part of Nigerians to quit the farm and seek employment in the many industrial estates that have become increasingly a feature of the large towns in Western and Eastern Nigeria, and to a lesser extent in the Northern Region.

While no organized body of systematic data is available on consumption expenditures by rural households it is possible to glean quite a lot of interesting and valuable information from a disconnected series of widely scattered studies made from time to time by individual researchers, notably anthropologists. Recently, however, a more systematic approach to problems of nutrition, by a medical field unit under the direction of Dr. B. M. Nicol,[4] has shown that a comparative statistical analysis of diets in widely separated and even remote

[1] Richard Stone, *The Measurement of Consumers' Expenditure and Behaviour in the United Kingdom, 1920–1938*, Vol. 1, Cambridge, 1954.

[2] J. A. C. Brown, 'The consumption of food in relation to household composition and income', *Econometrica*, 1954.

[3] H. S. Houthakker and S. J. Prais, *The Analysis of Family Budgets*, Department of Applied Economics Monograph No. 5, Cambridge, 1955.

[4] B. M. Nicol, 'The Calorie and Protein Requirements of Nigerian Peasants' in *British Journal of Nutrition*, Vol. 13, No. 3, 1959, pp. 293–320.

villages in Nigeria is well within the capacity of the Federal Government's staff and budget. At the same time, the Federal Statistics Office has been attempting to check some of the figures in the Agricultural Census of 1955–8 by surveying consumption in the villages selected for the Census. This is undoubtedly a desirable development and, provided national accounting work is the main objective, one would like to see a co-ordinated effort between economic statisticians and nutritional experts so that a further series of sample villages could be studied and fuller use made of the interesting results so far obtained from several rural areas.

The other line of advance, suggested by the urban consumer surveys of wage-earning households having incomes of less than £350 per annum, is to study concurrently the pattern of consumption expenditure of middle- or even upper-income households, say in the income range £350 to £1,500. Curiously enough, at the same time (1959) that the Federal Office of Statistics was planning to conduct just such a survey in Lagos during 1960, a small team at the Department of Political Economy in the University of Edinburgh was preparing to undertake a similar but much less ambitious exercise in Ibadan and subsequently in two Eastern towns.[1]

III. SOME PRELIMINARY CONCLUSIONS

This section of the paper seeks to set out very briefly the framework within which this academic enquiry into the relationships between household income and expenditure is being conducted, what the enquiry hopes to achieve and by what methods it is proceeding. The first thing to emphasize is that the enquiry is restricted to investigating the demand in Nigeria for agricultural products, whether domestically produced or imported from overseas. On the demand side, therefore, attention is being focused on the consumption pattern of food, drink and tobacco, and its relation to income and other variables such as occupation and size/composition of family. One of the important aims in this has been to set an upper and a lower limit

[1] These surveys form part of a wider study into the long-term development of supply and demand for agricultural products in Nigeria being undertaken by the Department in conjunction with the Nigerian Institute of Economic Research, Ibadan, for the United States Department of Agriculture. I am indebted to Mr. Roderick Ogley, Senior Research Fellow at Edinburgh, for conducting the Pilot Survey of Consumers' Expenditures on Foodstuffs in Ibadan, upon whose work Section III *infra* is based.

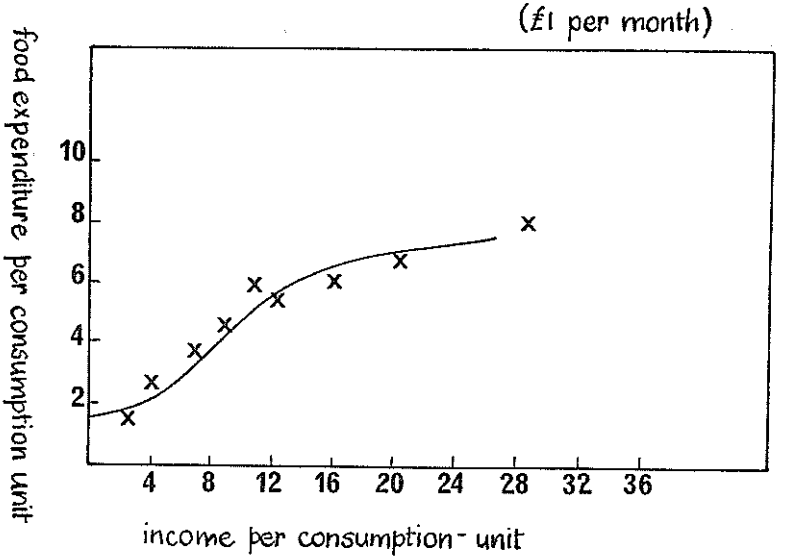
within which to approximate to estimates of future food requirements in Nigeria, assuming different rates of increase in *per capita* income over the next five or ten years. It may be argued that estimates of consumption expenditure relating to recent past experience set some kind of lower limit, save in the event of a drastic deterioration in the terms of trade. If the relation between export and import prices worsens slowly – as it has tended to do on balance over the last five years – the present level of consumption expenditure can still be maintained by increments in volumes and for a number of years by drawing upon the fairly comfortable reserves of sterling, somewhere in the region of £200 millions at the present time. The really interesting question is posed by the upper limit to certain kinds of consumer spending over the coming decade, since a high marginal propensity to import consumer goods could have serious implications for Nigeria's rate of capital accumulation.

One way of setting an upper limit to this prediction of future consumption expenditures is to assemble data relating to those households which at the present time have a high level of consumption including a propensity to consume imported goods that is well above the national average. A pilot survey along these lines has now been made, duing the second quarter of 1960, in Ibadan, in which some 160 households with salaries ranging from £300 to £2,500 per annum provided information on household composition, income and a detailed list of daily expenditure on foodstuffs over a period of two weeks. Considering that Nigerians, and all but fifteen or twenty of the households approached were Africans, are every bit as conscious of the considerations that move the well-to-do to keep silence as are the sophisticates of any other economy, a rate of response of 70 per cent can be described as encouraging. Simultaneously the Federal Government Statistician has been conducting a broader and more extensive survey of middle-income households in Lagos, embracing the whole range of consumption expenditures and making observations in each of a large number of households for one month out of every three, so that seasonal variations can be smoothed.

While it is still too soon to say anything about the official survey of middle-income households and premature to go into any detailed evaluation of the results so far analysed from the Ibadan Pilot survey during March–June, 1960, it may be of in-

terest to note one or two tentative conclusions that this smaller-scale enquiry has thrown up, conclusions which have been carefully checked against the results of a comparable survey carried out in two towns in the Eastern Region of Nigeria early in 1961.

(*a*) The evidence so far collected lends some support to the view that traditional Engel curves can be fitted to expenditures on food by Nigerian middle and upper-income households. Although this evidence is subject to a wide margin of error, it does appear from the general configuration in Chart I below that the demand for foodstuffs is income-elastic at lower ranges of income, but tends towards an inelastic relationship as income per consumption-unit (i.e. adult equivalent) rises above £360. This would imply a household average income in the range £750–£1,000, depending on the estimation of 'adult-equivalence'. The really important point to emphasize is not the exact measurement of the range of income but the impression that techniques being developed for the analysis of demand in 'Western' economies can with suitable modification be applied to Nigerian problems of this kind.



(*b*) The proportion of household expenditure on food that is made up of imported foodstuffs, drink and tobacco appears to be 12–15 per cent over the lower range of salaried households

in Ibadan, i.e. those with incomes from £300 to £700. Thereafter there is a sudden upwards adjustment to around 30 per cent over the income range £750–£1,500, and then a slight decline in the ratio of imported to locally produced foodstuffs, etc., consumed by upper-income households.

(*c*) While it would be extremely unwise to generalize at all on the basis of one small survey conducted in Ibadan, one of the explanatory variables to which more attention might profitably be directed in future work of this kind is that of the household size. In this survey household size seems to vary inversely with income even after due allowance for under-recording of total receipts.

These are but a few preliminary and tentative conclusions about the kind of hypothesis one might reasonably try out in the next stages of analysing consumers' behaviour, and it is expected that during 1961–63 some of these ideas can be compared with the results of another survey which the University of Edinburgh is undertaking in Ghana.

The next stage will be to assign 'weights' to the different income groups, occupational groupings and demographic categories, i.e. to attempt to move from the particular survey results in the direction of assessing general trends in the macro-economic relationship between aggregate income and expenditure on foodstuffs, etc. There is plainly a very long way to go before one can approximate to the degree of sophistication attained by demand analysis in more-developed countries, and the crying need is for suitable data, and therefore for a vigorous policy in support of the statistical work ably begun and carried on in spite of immense difficulties by the statistical services, federal and regional.