

INCOMES AND FACTOR PRODUCTIVITY IN WESTERN NIGERIA SMALL-SCALE INDUSTRIES

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INTRODUCTION

THE formulation of development strategies for presently developing economies is currently taking a new twist, with emphasis on strategies whose aim, according to Vail, is "universal participation in the process of economic modernization and universal sharing of its fruits" [19]. Specifically this approach calls for the elimination of unemployment, poverty, and maldistribution of income through an appropriate choice of technology in which, according to Schumacher [18], work places are created in areas where people are living and not in metropolitan areas; with relatively little capital per firm and simple production techniques which use local raw materials and produce mainly for local use. To the extent that such technology is available, development efforts must be directed at making it the cornerstone of solutions to the problems of development.

Admittedly the value premises underlying these recommendations stem from the failure of past development strategies to solve the almost perennial problem of poverty and unequal distributions of income in many developing countries. The current emphasis on intermediate technology can however be misplaced or become a fruitless exercise unless attention is focused on a comprehensive study of the kinds and utilization of the technologies available in each developing country and how they can be upgraded, if need be.

With an economy, especially those characterized by high rates of population growth, small-scale industries are seen as being important for their employment generation effects. Examination of this industrial subsector in recent years has shown that there exists an array of economic activities that provide more employment per unit of capital and add considerably to national income than the capital-intensive large-scale industries [3] [11]. In Western Nigeria, for example, Callaway counted a total number of 5,135 small-scale establishments distributed among 15 categories and providing employment for 14,500 workers [4] [5]. In a recent study of small-scale industries in Sierra Leone, it was estimated that there were almost 47,000 establishments employing 87,000 workers [6].

There is also a considerable amount of evidence relating to capital requirements

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in small-scale industries. In Sierra Leone, the average capital stock per establishment ranged from \$89 in "gara" dyeing to \$2,079 in blacksmithing [7]. In Nigeria the amount of capital invested is such that many proprietors could raise their initial capital from their personal savings or loans from relatives [4]. Unfortunately, however, not much information is available on resource utilization in these industries; more critical is the lack of knowledge about earnings of the labor force engaged in the subsector.¹

In this study attempts are made to measure the amount of capital and labor employed in the small-scale industries in Western Nigeria, and determine their productivity. Lastly, earnings in the subsector are estimated to facilitate comparison in four categories of industries and also with earnings in other sectors of the economy.

I. DATA SOURCES

The data used in this study was gathered as part of a survey of small-scale industries in Western Nigeria from April to December 1976. Western Nigeria was chosen because of the relative concentration of small industries in the area compared with other areas in the country. Two hundred and seventy-three small industrial establishments distributed among four categories (namely blacksmithing, tailoring, furniture-craft, and auto-repairs) were randomly selected. Three locations were chosen based on occupational patterns and population size. These were: Oyo (pop. 500,000), Ijebu-Ode (pop. 200,000), and Aiyeye (pop. 50,000). Due to the small sample frame of all small industries other than tailoring in Aiyeye township, industries that were covered in other locations such as blacksmiths, auto-repairs, and furniture-craft could not be included in the study for this location.

Collection of data in the selected industries was carried out in two phases. The first phase, designed to provide information about the socioeconomic characteristics of the labor force, involves the use of appropriate questionnaires to obtain detailed information from the proprietors, apprentices, and journeymen. Each questionnaire was administered by an enumerator at one interview. The second phase, aimed at providing information on the performance of the establishments, followed immediately after the first phase ended. Stock forms were used to collect data on each establishment's capital stock, inventories, and inputs. This was followed by flow forms to provide data on each firm's output, sales hours of work, and amount of inputs purchased. To collect this information each firm was visited twice in the month and record taken on production activities covering the entire two week period preceding the visit. These input-output data were collected for a period of six months from June to November—a period corresponding to peak production activities in nearly all of the industries.²

¹ See Liedholm and Chuta's [7] comprehensive study of small-scale industries in Sierra Leone.

² This is based on the findings by Liedholm and Chuta on seasonal fluctuations in production activities in the small-scale industries [7].

II. CHARACTERISTICS OF WORKERS IN THE SMALL INDUSTRIES

Essentially the type of workers in the Nigeria small-scale industries are skilled craftsmen who received their training either by being apprenticed to another master craftsman or from the larger expatriate firms or government establishments [14]. Period of apprenticeship which varies from one industry to another but often lasting up to three years is followed by the establishment of a small workshop. Among the proprietors in this study many have established their own business over a considerable length of time. As shown in Table I, over 45 per cent of the proprietors in auto-repairs had been on the job for over five years. Among the older industries were blacksmithing and furniture-craft. Proprietors in tailoring on the other hand appeared to have less years of experience in all the locations when compared with workers in other trades. Analysis of variance, when applied to the data, showed that variation between the industries to be significant at the 1 per cent level. Variation between locations was not statistically significant.

Another important characteristic of small-scale industry proprietors is the level of formal education. The distribution of the proprietors in Table II shows an astonishing variation across all industries and locations, the variations being statistically significant at the 1 per cent level. A substantial majority of proprietors in blacksmithing had no formal education as compared with proprietors in other industries. In both Oyo and Ijebu-Ode, proprietors in tailoring and furniture-craft appeared to be more educated than those in auto-repairs. Explanations for the differences in the level of education can be found in both the skills which

TABLE I
DISTRIBUTION OF PROPRIETORS BY YEARS OF EXPERIENCE

Location	Industry	Years of Experience (%)						\bar{x}	n
		-5	5-15	16-25	26-35	36-45	45-		
Ijebu-Ode	Auto-repairs	30.43	39.13	17.39	8.70	4.35	—	12.9	23
	Furniture-craft	10.81	59.46	18.92	8.11	2.70	—	19.7	37
	Tailoring	42.86	35.71	14.29	3.57	3.57	—	9.5	28
	Blacksmith	—	7.14	71.43	21.43	—	—	21.0	14
Oyo	Auto-repairs	33.33	50.00	16.67	—	—	—	8.2	30
	Furniture-craft	38.89	50.00	11.11	—	—	—	8.4	18
	Tailoring	40.00	46.67	13.33	—	—	—	7.3	30
	Blacksmith	10.20	40.82	14.29	14.29	10.20	10.20	19.7	49
Aiyeye	Tailoring	38.64	43.18	13.64	4.54	—	—	8.8	44
All locations	Auto-repairs	32.08	45.28	16.98	3.77	1.89	—	10.6	53
	Furniture-craft	20.00	56.36	16.36	5.45	1.83	—	10.3	55
	Tailoring	40.20	42.16	13.73	2.94	0.97	—	8.5	102
	Blacksmith	7.94	33.33	26.98	15.87	7.94	7.94	20.4	63

Source: Survey data.

Note: n=number of proprietors; \bar{x} =mean years of experience.

TABLE II
DISTRIBUTION OF PROPRIETORS BY YEARS OF EDUCATION

Location	Industry	Years of Formal Education (%)			\bar{x}	<i>n</i>
		None	1-6	7-9		
Ijebu-Ode	Auto-repairs	21.74	78.26	—	4.6	23
	Furniture-craft	27.03	70.27	2.70	4.8	37
	Tailoring	14.29	71.43	14.28	5.3	28
	Blacksmith	57.14	42.86	—	3.3	14
Oyo	Auto-repairs	53.33	46.67	—	2.8	30
	Furniture-craft	44.44	50.00	5.56	3.3	18
	Tailoring	10.00	70.00	20.00	5.5	30
	Blacksmith	87.76	12.24	—	0.6	49
Aiyeye	Tailoring	9.09	79.55	10.82	5.4	44
All locations	Auto-repairs	11.11	88.89	—	3.7	54
	Furniture-craft	32.73	63.64	3.63	4.1	55
	Tailoring	10.78	74.51	14.71	5.4	102
	Blacksmith	80.95	19.05	—	1.9	63

Source: Survey data.

Note: *n*=number of proprietors; \bar{x} =mean years of education.

are demanded by each trade and the forces governing entry into the small industries. In Western Nigeria, traditional blacksmithing is generally regarded as an exclusive family skill that is passed from one generation of family member to another. Outsiders into the industry can only on rare occasions be recruited through a tedious initiation-cum-religious process. In other words, a closed-shop policy is maintained by forming a kind of cult around the profession. In all other industries, entry and exit are not restricted once the skill has been learnt. Both tailoring and furniture-craft require ability to make and read measurements or calibrations in a precise manner; auto-repairs, while requiring less of measurement skill, however, demand more education than blacksmithing because of the differences in the level of technology in the two industries.

Among the workers in the industries were apprentices, family members, and occasional hired workers or journeymen. Apprentices are youths who are indentured to the proprietors to learn a trade for a specified time period. Journeymen or hired workers are usually recently graduated apprentices who, owing to lack of capital to establish their own firms, had to work as paid workers. They had irregular employment, being called upon when the demand for the firm's products or services could not be met by the available hand in the firm. The number of workers per establishment cannot be estimated with any high degree of accuracy because of the generally high labor turnover in the subsector. The average employment per establishment estimated for the survey period ranged from 1.65 workers in tailoring to 3.50 workers in blacksmithing. While many proprietors and their apprentices could be found at their workshop from eight in the morning till seven at night, the average number of hours actually

expended in production activities could be as small as four hours a day. Attempts to evaluate the average hours of work produced the following estimates: furniture-craft—six hours; auto-repairs—two hours; tailoring—two hours; and blacksmithing—five hours. Observations during the course of the study showed, however, that a larger part of the time is spent in waiting for orders from their patrons.

The total hours actually worked by each category of labor as seen in Table III varied considerably from one industry to another. Both apprentices and the proprietors worked longer hours in the furniture industry compared with workers in other industries. The data in the table also showed that in both Oyo and Ijebu-Ode apprentices in auto-repairs industry appeared to work longer hours than the proprietors. Perhaps this is due to the fact that mistakes in carrying out a repair work on an automobile can be rectified at a relatively less cost compared with mistakes in making a piece of furniture or a pattern of dress from raw materials.

The considerable amount of journeymen labor employed in the furniture industry in Oyo was due to the boom in the construction industry in this area especially the construction of school buildings for the expanded free primary education. Only few journeymen were hired in auto-repairs in Ijebu-Ode, while in both tailoring and blacksmithing no evidence of the practice of hiring journeymen was encountered.

A. Capital Utilization

One of the main attractions of small-scale industries is the little amount of capital employed per worker relative to the capital/labor ratios in large industries.

TABLE III
AVERAGE HOURS OF LABOR INPUTS BY INDUSTRY AND LOCATION

Location	Industry	Mean Labor Input (Hours)*		
		Proprietors	Apprentices	Journeymen
Ijebu-Ode	Furniture-craft	1,054.50	739.98	—
	Auto-repairs	302.28	632.88	13.20
	Tailoring	541.08	127.14	—
	Blacksmith	874.68	—	—
Oyo	Furniture-craft	1,116.30	422.34	1,291.14
	Auto-repairs	124.26	288.84	—
	Tailoring	151.98	100.44	—
	Blacksmith	1,073.46	—	—
Aiyeye	Tailoring	555.36	226.92	—
All locations	Furniture-craft	1,085.40	264.92	1,242.60
	Auto-repairs	213.27	409.56	4.77
	Tailoring	416.14	151.49	—
	Blacksmith	974.07	—	—

Source: Survey data.

* From June 1 to November 30.

Before discussing the magnitude of the capital input, let us examine the composition of the capital stock characteristic of the small-scale industries in this study. Three components of capital can be identified. These are equipments or tools, buildings, and working capital. Working capital is defined as the value of inventories of material inputs and finished goods held by the firm. This definition, though restrictive, can be justified on the findings that net receivables and cash held by a small-scale enterprise are negligible and often difficult to estimate. Equipment is composed of tools and machinery used by the enterprise and valued at its purchase price. Lastly, "buildings" measure the value of the building or shed and the land that are being used by the firm.

The components of capital employed by each firm as shown in Table IV include equipment, building, and working capital. Since over 85 per cent of the establishments rented the buildings or land in which they were operating, the building component measures the annual rent paid by each establishment.³ Equipments, except in tailoring, were essentially hand tools, either purchased or made by the firm itself. Among the blacksmiths all but a few tools were not made in the firm. As is evident from the table the amount of capital employed by each firm varied from one industry to another and also by location. The

TABLE IV
AVERAGE CAPITAL STOCK BY INDUSTRY AND LOCATION (Naira)

Industry	Oyo	Ijebu-Ode	Aiyeye	All Locations
Furniture-craft				
Equipment	24.07	69.40	—	46.74
Building	31.25	53.41	—	42.33
Working capital	178.13	352.87	—	265.50
Total capital input	233.45	475.68	—	354.57
Auto-repairs				
Equipment	51.29	148.55	—	99.92
Building	45.71	85.54	—	65.63
Working capital	8.70	5.30	—	7.00
Total capital input	105.70	239.39	—	172.55
Tailoring				
Equipment	137.28	206.78	201.49	181.85
Building	55.07	47.64	35.07	45.93
Working capital	10.98	26.15	23.36	20.16
Total capital input	203.33	280.57	259.92	247.94
Blacksmith				
Equipment	32.72	37.49	—	35.11
Building	66.47	52.14	—	59.31
Working capital	211.98	88.55	—	200.00
Total capital input	311.17	178.18	—	294.42

Source: Survey data.

³ To calculate the capital stock for buildings, the amount spent on improvements on the building or land was added to the annual rent paid. This reflects the worth of the building at the material time.

amount of working capital employed by each firm constituted the highest component of the capital stock except in tailoring and auto-repairs. For example, working capital per firm in furniture-craft constituted nearly 75 per cent of the capital stock. In blacksmithing the proportion of working capital was about 70 per cent.

The observed variation in the component of the capital stock across the industries can be explained in terms of the technology in each industry, the type of clientele that are served, and the product mix of each industry. Among the tailors, the technology is such that the ratio of machine to labor is technologically determined—at least one man to one machine. Unlike in Sierra Leone [7], rental of sewing machines is not a common practice in Western Nigeria. In auto-repairs, the level of technology embodied in the machines is relatively higher than what obtains in furniture-craft or blacksmithing. For example, while in furniture-craft and blacksmithing simple hand tools predominate, some auto-repair firms have, in addition to hand tools, hydraulic equipments and jacks. The high proportion of working capital among furniture makers and blacksmiths may be due to the fact that proprietors in these industries had to buy the raw materials such as planks, Formica, polish, nails, and scrap iron. Tailors and auto-repair workers on the other hand provide services on materials or machines brought by their clientele and hence require little or no inventory of either raw materials or finished products.

B. *Production Activities*

Production activities in these small-scale industries were, in general, geared to individual customer requests. As such, no complex distribution channel or network is developed. Some blacksmiths and furniture makers (about 5 per cent of the sample) were observed, however, to produce few items for sale. These finished products, such as hoes and cutlasses in the case of blacksmiths, and stools or tables in the case of furniture makers, were often displayed in front of their workshops.

Many firms in the four industries are multi-product firms, with little product specialization. Blacksmiths produce hoes, traps, and guns. Tailors produce shirts and trousers—both native and English dresses. Furniture makers who make household furniture often are engaged in such jobs as house-roofing and coffin-making. Thus by engaging in the production of many commodities these firms are able to remain economically active throughout the year, subject only to demand fluctuations.

Estimates of the average value added by industry and location are shown in Table V. The gross value added of a firm is defined as the total output of the firm (sold or consumed within the firm) less all industrial costs. Industrial costs are defined to include the cost of raw materials, repairs and maintenance work done by others, and the costs of goods bought and resold without further manufacture. This is the definition which has been adopted by the Nigerian Federal Office of Statistics in computing nationwide data. The estimated value added

TABLE V
AVERAGE VALUE ADDED FROM JUNE 1 to NOVEMBER 30, 1976 (Naira)

Location	Industry	Mean Value-Added
Ijebu-Ode	Furniture-craft	470.90
	Auto-repairs	241.31
	Tailoring	188.37
	Blacksmith	136.33
Oyo	Furniture-craft	587.05
	Auto-repairs	196.91
	Tailoring	124.87
	Blacksmith	123.57
Aiyeye	Tailoring	132.80
All locations	Furniture-craft	521.89
	Auto-repairs	212.97
	Tailoring	147.78
	Blacksmith	126.40

Source: Survey data.

ranged from N123⁴ in blacksmithing to over N500 in the furniture industry. Industries providing services such as auto-repairs and tailoring generated comparatively lower value added. The low value added in blacksmithing could be due to the content of the materials used in production. The main raw material in this industry is scrap metal from discarded automobiles and other ferrous material that could not be used elsewhere. These scrap metals when bought from the dealers are generally twisted out of shape and rusted. And given the simple hand tools used in the industry there is often considerable expenditure of labor and wastage of materials before a piece of metal can be used to make a hoe or a cutlass could be obtained. The value added figures also reflect the relative prices of the commodities produced by each industry and hence the underlying demand pattern. While blacksmiths produce tools for the low income agricultural sector, the auto-repairs industry provides services for the affluent members of the community. In other words, here is an indication that industries with high income elasticities, as has been shown by King [13], tend to generate high value added.

C. *Specification of Production Relations*

Among the factors determining the supply of the products of the small-scale industries are the combination of capital and labor which are employed by each establishment. An empirical estimate of the production relations in each industry can thus be used to determine the relative efficiency of each category of input, their marginal products, and determine the presence or absence of scale economics.

In specifying the production function, output of each firm is defined as gross value added, and capital is specified in terms of the flow of services rendered.

⁴ N1.00 is equivalent to \$1.65.

The rental cost of capital or the price of capital services is defined as the value of each investment good (equipments and buildings) multiplied by the rate of return to all capital [9] [8]. Specifically, the rental cost of capital services can be written as

$$\hat{V} = \frac{rV_i}{1 - (1+r)^{-n}},$$

where \hat{V} is the annual value of capital services, V_i is the acquisition cost of capital stock, r is the rate of discount, and n the life expectancy of the capital good. To estimate the rental cost of capital services of each firm, data on the acquisition cost of each equipment and tools were obtained. In determining the rate of discount, r , the question arises relating to the choice between institutional rates of borrowing and the rates in non-institutional capital markets. In Nigeria both types of rates encompass a whole set of rates varying with the length of borrowing period, and the type of lending institution. Studies have shown that many small-scale industry operators obtained their investment funds not from commercial or public banking houses but from their relations or moneylenders [7] [4]. In Western Nigeria, moneylenders charge between 10 to 25 per cent on borrowed funds. Hence for this study a rate of 20 per cent was used to compute the value of capital services. To estimate the value of the building component, the average annual rent paid by the proprietors of each industry was used.

Labor is defined to include three categories of workers. These are the proprietors and his family (L_p), apprentices (L_a), and journeymen (L_j). Measurement of labor input was in hours actually contributed by each group of worker in the production activities of the firm for the entire six months of the survey. Using ordinary least squares technique, the parameters of the Cobb-Douglas function, specified as

$$\ln Q = \ln A + \alpha \ln V + \beta_1 \ln L_p + \beta_2 \ln L_a + \beta_3 \ln L_j + e,$$

were obtained; Q is defined as value added; A the shift factor; V capital services; L_p proprietor's labor; L_a apprentice's labor; L_j journeymen's hours of labor input; and e the error term. Estimates of the marginal product of the factors employed were obtained from the Cobb-Douglas production function; thus: $MP_i = \gamma_i (AP_i)$ where γ is the estimated elasticity coefficient of input i and AP_i is the average product or the output/input ratio for that particular input.

The results of the Cobb-Douglas production function analyses for the industries and locations are summarized in Table VI. Except for the blacksmithing industry, the production function seems to provide a good fit for the data as indicated by the values of the adjusted \bar{R}^2 . The important insights revealed by the function include: (a) for all the industries and in nearly all the locations of the survey (except Aiyeye) the capital service coefficient, α , was not significantly different from zero; (b) increasing returns to scale was evident only in the furniture industry, especially in Ijebu-Ode. In all other industries, the sum of the elasticity coefficients of capital and labor was less than unity and varied from as low as 0.06 in tailoring in Ijebu-Ode to 0.81 in auto-repairs in Oyo.

TABLE
ESTIMATED PARAMETERS OF THE COBB-DOUGLAS PRODUCTION

Location and Industry	Capital Services			Proprietors			Labor Input		
	α	AP	MP						
				β_1	AP	MP	β_2	AP	MP
Ijebu-Ode:									
Furniture-craft	0.01* (0.10)	15.93	0.16	1.25 (0.19)	0.72	0.90	0.04 (0.02)	3.34	0.13
Blacksmith	0.00* (0.07)	2.99	0.00	0.12 (0.32)	0.36	0.04	—	—	—
Auto-repairs	0.09* (0.07)	4.49	0.40	0.34 (0.13)	1.11	0.38	0.08 (0.02)	0.38	0.03
Tailoring	-0.04* (0.11)	4.40	-0.18	0.07 (0.03)	0.67	0.05	0.03 (0.02)	1.48	0.04
Oyo:									
Auto-repairs	0.02* (0.05)	7.46	0.15	0.67 (0.22)	0.98	0.66	0.12 (0.09)	0.68	0.08
Furniture-craft	0.01* (0.04)	34.51	0.35	0.72 (0.24)	0.91	0.66	0.07 (0.02)	1.39	0.09
Tailoring	0.05* (0.09)	2.07	0.10	0.70 (0.10)	0.82	0.57	0.03 (0.01)	1.24	0.04
Blacksmith	0.04* (0.06)	2.77	0.11	0.82 (0.36)	0.21	0.17	—	—	—
Aiyeye:									
Tailoring	0.41 (0.17)	3.47	1.42	0.22 (0.08)	0.24	0.05	0.06 (0.09)	0.58	0.04
All locations:									
Furniture-craft	0.01* (0.04)	21.70	0.22	1.14 (0.14)	0.80	0.91	0.03 (0.01)	1.97	0.06
Auto-repairs	0.07* (0.04)	5.87	0.41	0.52 (0.11)	1.03	0.54	0.09 (0.02)	0.52	0.05
Tailoring	0.16* (0.09)	3.13	0.50	0.15 (0.04)	0.36	0.05	0.04 (0.02)	0.97	0.04
Blacksmith	0.02* (0.04)	2.83	0.06	0.27 (0.18)	0.24	0.06	—	—	—

Note: Figures in parentheses are standard errors. AP =value of average product (in naira); MP =value of marginal product (in naira).

The estimates of the marginal products showed that labor productivity of the proprietors was highest in the furniture industry and lowest among tailors and blacksmiths. Moreover, the labor productivity of the proprietors was fifteen times greater than that of apprentices in the furniture industry, ten times in auto-repairs, and about the same as that of apprentices in tailoring. In the industries where journeymen were employed, their marginal productivity ranged from 0.05 in furniture-craft to 4.72 in auto-repairs.

To compare the contribution of capital services relative to labor in the industries, the output elasticities with respect to the three categories of labor were added together and then divided by the output elasticity with respect to capital. The estimated ratio, shown in the last but one column of the table, indicates that the ratio was highest in industries of furniture-craft and blacksmithing which are characterized by a much simpler technology when compared with the other two industries.

VI
 FUNCTION: AVERAGE AND MARGINAL PRODUCTS

(Hours)			Constant	\bar{R}^2	$\alpha + \sum_{i=1}^3 \beta_i$	$\frac{\sum_{i=1}^3 \beta_i}{\alpha}$	<i>n</i>
Journeyman							
β_3	<i>AP</i>	<i>MP</i>					
—	—	—	-2.210 (1.253)	0.73	1.30	129.00	24
—	—	—	4.161 (1.867)	0.22	0.12	—	14
0.07 (0.04)	18.31	1.28	2.885 (0.860)	0.71	0.58	5.44	18
—	—	—	4.865 (0.428)	0.49	0.06	2.50	30
—	—	—	0.414 (1.079)	0.51	0.81	39.50	30
0.06 (0.01)	0.45	0.03	0.719 (0.239)	0.79	0.86	85.00	18
—	—	—	1.019 (0.605)	0.73	0.78	14.6	30
—	—	—	2.079 (1.513)	0.51	0.86	20.50	49
—	—	—	1.880 (0.767)	0.53	0.69	0.68	30
0.05 (0.01)	0.92	0.05	-1.388 (0.917)	0.75	1.23	122.00	41
0.11 (0.04)	44.69	4.92	2.020 (0.664)	0.56	0.79	10.29	47
—	—	—	3.384 (0.439)	0.59	0.35	1.19	87
—	—	—	3.275 (1.103)	0.11	0.29	13.50	63

* Not significant at 5 per cent confidence limit.

D. Returns to Proprietors

One of the questions which this study was designed to answer is: what are the earnings of the proprietors in small-scale industries relative to earnings in other sectors of the economy; do incomes vary by industry and location? Small-scale industrial entrepreneurs, because of the long periods of apprenticeship, scarcity of capital, and the risks and uncertainties associated with business ventures, can be considered as scarce resources and hence will command a higher rate of return than in peasant agriculture or in unskilled labor market.

To obtain the returns to a proprietor's labor input, estimates of the opportunity costs of other inputs employed by the firm were obtained by multiplying each input's (other than the proprietor's labor) value of marginal product by the total number of hours worked [7]. Specifically, from the fitted production function, the average returns to proprietor's labor is defined as

$$\hat{Q}_{ijk} = Q_{ijk} - \hat{V}_{ijk} - M_{jk}La_{ijk} - M_{jk}Lj_{ijk},$$

where \hat{Q}_{ijk} is the returns to proprietor in firm i , industry j , and location k ; Q_{ijk} is the firm's value added; \hat{V}_{ijk} the rental value of capital services; La_{ijk} apprentice labor input; Lj_{ijk} journeymen's labor input; and M_{jk} 's the estimated MVP from the regression equation.

The summary of the computed yearly earnings is presented in Tables VII and VIII. The average returns to the proprietor's labor varied from N240 in tailoring to N900 in the furniture industry. Earnings in the furniture industry were about four times the average earnings in blacksmithing and tailoring and over two times the earnings in auto-repairs. For all the industries, average earnings appeared to be higher in Ijebu-Ode compared with Oyo and Aiyeye. The distribution of proprietors by levels of earnings also showed that over 40 per cent of the proprietors in tailoring, compared with 3 per cent in blacksmithing, had earnings which were below the average for the industry. In auto-repairs over 50 per cent of the proprietors earned above the average for the industry. For a country with a per capita income of about N200, it appears from this study that, except for proprietors in the tailoring industry, proprietors in small-scale industries can be considered as relatively well off. However, when the average earnings are compared with the minimum wage rate for unskilled workers in the public sector, which is about N700 per annum, only proprietors in the furniture industry could be considered as earning a satisfactory return. In other words, given the wage structure in Nigeria, it seems rational, at least in the short run, for youths to seek wage employment in the large urban wage sector rather than self-employment in the small-scale industries.

The findings in this study show that traditional industries such as black-

TABLE VII
ESTIMATED AVERAGE YEARLY EARNINGS OF PROPRIETORS BY INDUSTRY AND LOCATION
(Naira)

Industry	Oyo	Ijebu-Ode	Aiyeye	All Locations
Auto-repairs	347.64	410.88	—	379.26
Tailoring	241.80	265.20	247.44	251.48
Furniture-craft	895.68	918.96	—	907.32
Blacksmith	247.08	272.64	—	259.86

TABLE VIII
DISTRIBUTION OF PROPRIETORS BY EARNINGS AND INDUSTRY

Earnings (per Year) (Naira)	Tailoring		Furniture-craft		Auto-repairs		Blacksmith	
	No.	%	No.	%	No.	%	No.	%
-200	33	42.31	—	—	2	4.44	2	3.17
200-400	35	44.87	3	7.50	28	62.23	61	96.83
401-600	8	10.26	6	15.00	13	28.89	—	—
601-800	1	1.28	11	27.50	2	4.44	—	—
801-1,000	1	1.28	5	12.50	—	—	—	—
1,000-	—	—	15	37.50	—	—	—	—

smithing and tailoring generate the lowest earnings. This appears to explain the observation documented by Koll that there is a gradual movement of labor away from traditional to modern small-scale industries [14].

III. SUMMARY

Small-scale industries in Western Nigeria are in many respects similar to small-scale industries elsewhere in Africa. They are characterized by a relatively modest amount of capital per firm and provide more employment for each dollar of investment. The hours of labor expended in the production activities of the establishments in the industries reflect the demand pattern of the products of each industry as well as the level of technology available. Labor productivity in the industries varied among the different categories of workers as well as by industry type and location. The elasticity of output with respect to capital services is in general low in all the industries and locations. Moreover, the output elasticity with respect to labor input is much greater when compared to that of capital. Returns to proprietors in the small-scale industries are high in some industries such as furniture-craft, while lower in others such as blacksmithing. Compared with earnings of unskilled daily paid workers in government employment, earnings in nearly all the industries are pathetically low.

Thus it seems that, if employment is the main objective of policies dealing with small-scale industries, there is evidence that, because of the relatively modest amount of capital needed to set up a firm, more employment can be secured when compared with large-scale industries that require higher capital per worker. Moreover, with simple hand tools used in the industries, it may not be a difficult technological feat to establish a capital good industry for the small-scale industries. If, however, increased income is included as a policy goal, there is need for a broader approach that will involve other sectors of the economy, especially the agricultural sector which forms the major market for many of the products of the small-scale industries. Moreover, specific policies should be designed which are aimed at raising productivity in the small-scale industries. Examples of these include retraining programs for the proprietors in the industries and provision of technical and managerial assistance.

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