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9. ABSTRACT

This paper examines the nature of the work force in manufacturing, with special concern for the level of skills of African and non-African workers. It examines the extent to which an exodus of non-Africans will affect the various sectors of manufacturing. The report is in two parts. The first discusses the location of skilled African and non-African workers and those sectors which appear to be most vulnerable to a rapid exodus of whites. Section II discusses the composition of the skilled African work force, how skilled they are relative to non-African skilled workers, and the potential for a rapid increase in the skill levels of Africans. It concludes that most skilled African workers perform functions which are on the lower end of the range of necessary skills. It also appears that in the 10 to 15 years, there has not been any meaningful number of Africans entering into apprenticeship programs. There is no expected increase in the actual level of skills among African workers. Non-African skilled workers most often appear in industries with relatively low African to non-African worker ratios. This implies that these industries are heavily dependent upon their skilled non-African workers. Unless there are a large number of underemployed Africans with the necessary skills who are not permitted to work under the present regime, it is assumed that a loss of skilled non-Africans will result in serious problems in those sectors under consideration.

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FINAL REPORT

OBSERVATIONS ON THE LABOR FORCE
IN ZIMBABWE

by

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The University of Michigan

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Observations on the Labor Force in Zimbabwe

The purpose of this report is to examine the nature of the work force in manufacturing, with special concern for the level of skills of African and non-African workers. The question is to what extent will an exodus of non-Africans affect the various sectors of manufacturing. It is almost impossible to know the precise skill levels of workers - African or non-African - in any of the sectors; we take what little there is by way of data and speculate. The report is in two parts: i) Based on available information, what can we say about the whereabouts of skilled African and non-African workers? What sectors appear to be most vulnerable to a rapid exodus of whites? ii) What can be said about the composition of the skilled African workers? How skilled are they relative to non-African skilled workers? What is the potential for a rapid increase in the skill levels of Africans?

I. The whereabouts of skilled workers

Very little specific information is known as to the requirements for skilled workers on the part of industry and the degree to which this need is met.¹ Even less can be said about the specifics of what percent of these are African, what percent are non-African, and how skill levels of different workers compare. But we can make some plausible assumptions. For one thing, the law governing trade unions in Rhodesia (Industrial Conciliation Act) sets out two very clear conditions. First, there can only be one trade union registered with the government for each classification of job to be performed.

To obtain the benefits of the machinery of the Act, trade unions and employer's organizations must obtain registration. This gives the organization proprietary rights to represent the interests of the classes of occupations for which it is registered. No other organization can claim the right to speak on behalf of those interests...A fundamental requirement is that the organization should be sufficiently representative. ²

Second, unions may not bar membership to anyone on racial grounds. As a result, unions have become de facto craft guilds with the more highly skilled and specialized unions effectively the domain of white workers. ³

Theoretically, therefore, all Rhodesian trade unions are multi-racial. However, in practice, workers find themselves grouped in racial categories because of the nature of the jobs they perform and the union established to represent their interests have become racially identifiable. ⁴

To make his point further, the author goes on to state that on December 31, 1973 there were 49 registered trade unions and 13 unregistered trade unions in existence. "All the unregistered unions and 13 of the 49 registered trade unions could be said to be effectively African unions." ⁵ Where there are African unions, there is surely some degree of skill, or at the very least, the Africans there are capable of performing that range of tasks corresponding to the union's representation. In addition, if we assume that the presence of a strong union, either African or non-African, will result in a generally greater than average wage for members in that sector, then high average wages of African and non-African workers in a given sector may indicate the presence of skilled workers within that sector.

Table 1 gives us some insight into the situation in the various sectors vis-a-vis the possible levels of skill within that sector's work force. If we assume for the moment that the higher the skill requirement the higher the

income, and then define a significantly higher income as one that is more than 10% above the average for manufacturing, we can isolate eleven of the sectors in Table 1 as potentially having greater numbers of skilled African workers (8,18,19,20,21,22,23,25,29,32, and 34). In a similar manner we can single out eight sectors that will in all likelihood include more highly skilled non-African workers (7,8,9,10,20,29,30, and 33). If we compare the list of sectors with a higher probability of including skilled African workers with the list of unions in Table 2 we find that five of these sectors (20,21,22,32, and 34) can be directly matched up to unions on that list (9,15,13,8, and 6 respectively). This would support to some degree our original assumption that unions reflect higher skill levels. In addition, we see from Table 2 that of those unions matching up, most of them represent a small portion of the total work force for their sector, or are unions with small memberships. The only exception to this is the S.R. Motor Trades Workers Union.

Figure I^{5a} below plots the trend in employment ratios of African to non-African workers as an average for all manufacturing from 1958 to 1975. The relative numbers of Africans employed fell off very sharply, reaching a low point about the time of UDI. Within two years after UDI, the ratios began climbing quickly, surpassing the 1958 level by 1969 and eventually reaching the present level of about 25% above the UDI level. The ratios of African to non-African workers is very useful if we want to put the effect of a loss of non-African workers on Rhodesia's economy into perspective. By examining these ratios, we can tell something about how dependent any given sector is on its non-African work force. In addition, we can draw some conclusions about skill levels of various workers based on wages and the racial composition of the work force within a given sector.

Table 1
Numbers employed and earning, by sector (1972)

Sector	1	2	3	4	5	6	7	8 -
Slaughtering and meat proc.	3204	512	97.15	502	3954	94.23	86.45	6.38
Dairy products	2567	515	97.72	416	3764	89.70	86.05	6.17
Canning and preserving	585	342	64.90	56	4000	95.33	91.26	10.45
Grain milling and animal feeds	2971	516	97.91	519	4064	96.85	85.13	5.72
Bakery products	3370	526	99.81	426	3218	76.69	88.78	7.91
Chocolate and sugar confectioning	995	404	76.66	68	4162	99.19	93.60	14.63
Other food products	2029	564	107.02	314	4818	114.82	86.60	6.46
Beer, wine and spirits	2058	689	130.74	472	4922	117.30	81.34	4.36
Soft drinks and carbonated water	1396	569	107.94	219	5096	121.45	86.44	6.37
Tobacco manufactures	3938	502	95.26	662	4746	113.10	85.60	5.95
Cotton ginning, weaving, finishing text.	8943	473	89.75	619	4205	100.21	93.53	14.44
Knitted products	3349	528	100.19	351	2786	66.40	90.51	9.54
Other textile products	492	455	86.34	63	4048	96.47	88.65	7.81
Wearing apparel	12763	497	94.31	1145	3730	88.89	91.77	11.15
Footwear	3045	558	105.88	323	4034	96.14	90.41	9.43
Sawmills and wood manufacture	5763	307	58.25	429	4268	101.72	93.07	13.43
Furniture and fixtures (non-metal)	4647	451	85.58	459	4409	105.07	92.83	12.94
Pulp, paper, paperboard	1910	636	120.68	552	3848	91.71	77.58	3.46
Printing and publishing	1856	751	142.50	1876	3839	91.49	49.73	0.99
Fertilizer, insecticides and pesticides	1220	685	129.98	549	4876	116.21	68.97	2.22
Paints, varnishes and filling material	502	612	116.13	171	3965	94.49	74.59	2.94
Soap, detergents, pharmaceuticals	1965	683	129.60	653	4149	98.98	75.06	3.01
Matches, inks, candles, glue and polishes	462	710	134.72	186	3914	93.28	71.30	2.48
Basic industrial chemicals, petroleum prod	968	475	90.13	268	3937	93.83	78.32	3.61
Rubber products	1055	828	157.12	360	4097	97.64	74.56	2.93
Plastic products	1417	573	108.73	235	4276	101.91	85.77	6.03
Structural clay products (incl. bricks)	3525	376	71.35	115	4374	104.24	96.84	30.65
Glass, cement (other non-metal prod.)	4263	530	100.57	726	4193	99.93	85.45	5.87
Iron and steel basic industries	5955	628	119.17	1607	5113	121.85	78.75	3.71
Non-ferrous metals basic industries	1397	490	92.98	145	5372	128.03	90.60	9.63
Metal prods. (except machinery and veh.)	11456	551	104.55	2376	4131	98.45	82.83	4.82
Machinery & engineering except chemical	3130	663	125.80	1097	4256	101.43	74.04	2.85
Electrical machinery and equipment	3277	563	106.83	608	4653	110.89	84.35	5.39
Manufact. and recondition motor vehicles	2606	620	117.65	814	3998	95.28	76.20	3.20
Manufact. and repair other veh. & equipt	2984	572	108.54	1874	4108	97.90	61.42	1.59
Other Manufacturing	2097	446	84.63	371	3838	91.47	84.97	5.65
Manufacturing Industry								
1966	68592			15559			81.51	4.41
1968	78529			16890			82.30	4.65
1970	95456			18921			83.46	5.04
1972	114160	527	100.00	21526	4196	100.00	84.14	5.30

Source: Census of Production, 1972/1973, Table 6, pp. 67-81; column (1) is number of Africans employed; (2) Average African income; (3) African income as a percentage of Average African income for all manufacturing; (4) number of non-Africans employed; (5) Non-African average income; (6) Non-African income as a percentage of average non-African income for all manufacturing; (7) Africans as a percentage of total sector work force; (8) ratio of Africans to non-African workers within each sector.

Table 2

Membership of Organized Black Labor Unions of Rhodesia 1969-71

	paid-up	1969 book	paid-up	1971 book	total potential work force	'71 book as % of total	'71 as % of total	change in mem. book	paid
1	3900	4500	2009	3360	9900	33.94	20.29	-25.33	-48.49
2	3897	3937	3837	3937	8000	49.21	47.96	-1.54	0
3	3050	4000	5000	8000	40000	20.00	12.50	+100.00	+63.93
4	1285	2300	1100	2300	30000	7.67	3.67	0	-14.40
5	1200	2036	530	1900	13000	14.46	4.08	-6.68	-55.83
6	1050	2228	2009	3360	12000	28.00	16.74	+50.81	+91.33
7	900	2200	840	1040	24000	4.33	3.50	-52.73	-6.67
8	400	2000	502	1300	14000	9.28	3.59	-35.00	+25.50
9	400	484	570	760	18000	4.22	3.17	+57.02	+42.50
10	302	600	302	600	5600	10.71	5.39	0	0
11	128	156	95	450	2000	22.50	4.75	+188.46	-25.78
12	100	264	N/A	N/A	1900	13.89(a)	5.26(a)	N/A	N/A
13	95	545	220	640	2000	32.00	11.00	+17.43	+131.58
14	239	362	175	360	6000	6.00	2.92	0.55	-26.78
15	63	114	N/A	N/A	3000	3.80(a)	2.10(a)	N/A	N/A

Source: Employment Opportunity and Race in Rhodesia, Marshall W. Murphree, Studies in Race and Relations, Volume 4, Study No. 2, IRR, 1972-3, pp.30-31

(a) figures represent percentages based on 1969 data

Unions: (1) S.R. Tailors and Garment Workers Union; (2) United Textile Workers Union of Rhodesia; (3) Rhodesia United Food and Allied Workers Union of Rhodesia; (4) S.R. Commercial and Allied Workers Association; (5) Rhodesia Hides, Shoes, and Leather Workers Union; (6) S.R. Motor Trades Workers Union; (7) United Building and Wood Workers Union; (8) S.R. Engineering and Metal Workers Union; (9) S.R. Chemical and Allied Workers Union; (10) Asbestos, Cement and Lime Workers Union; (11) Rhodesia Sandstone and Jewelry Workers Union; (12) S.R. Petrol and Oil Storage Distributors Workers Union; (13) Soap, Edible Oil and Fats Workers Union; (14) Tobacco Workers Union; (15) S.R. Paint Manufacturing Workers Union.

FIG. I

AFRICAN WORKERS PER NON-AFRICAN WORKER 1953-1976

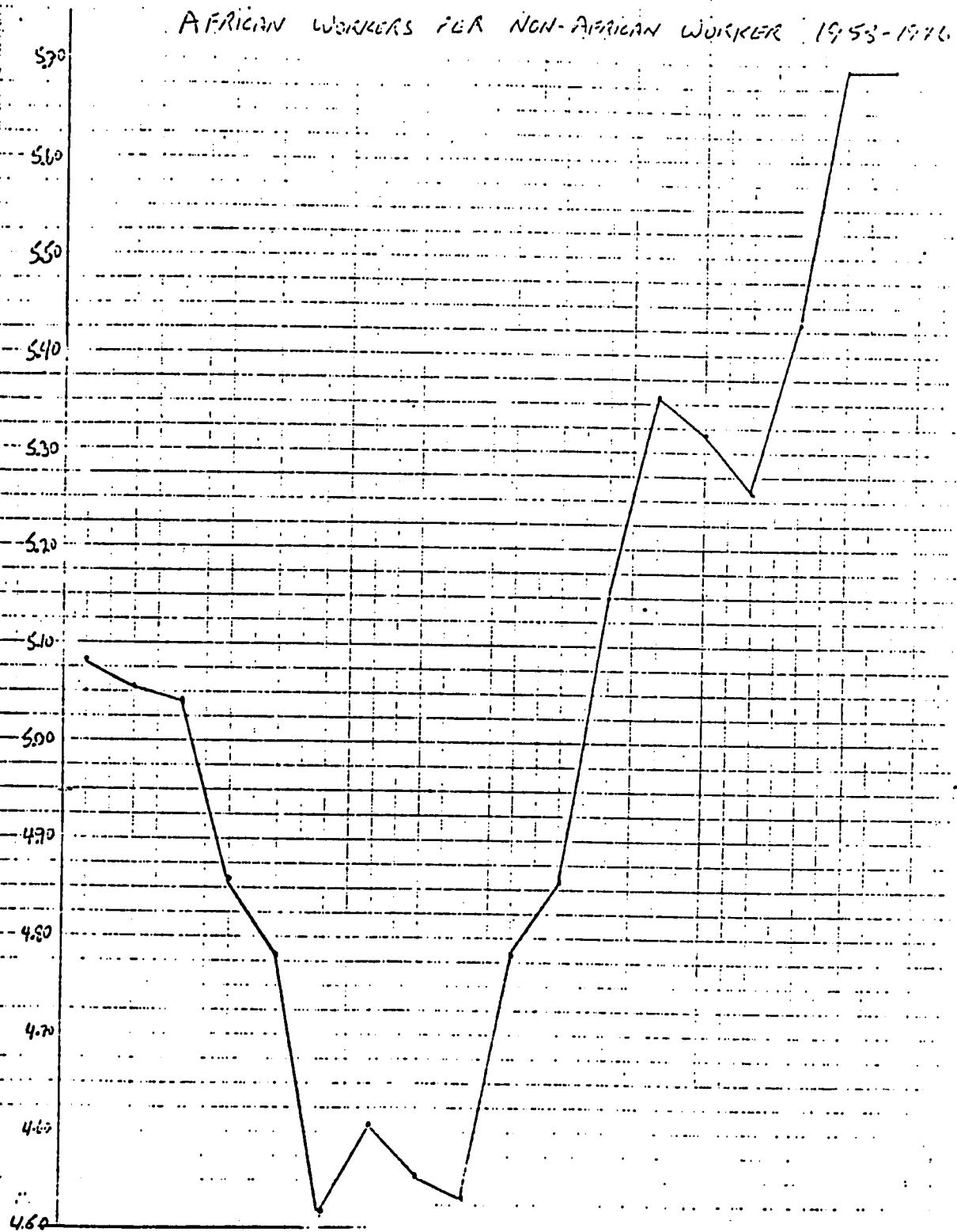


Figure II plots the average wages for non-African against the African to non-African worker ratio within these sectors. Quadrant I represents those sectors with fewer non-Africans than the average and with these non-Africans receiving lower than average incomes. These sectors (slaughtering and meat processing; dairy products; canning and preserving; grain milling and animal feeds; bakery products; chocolate and sugar confectioning; knitted products; other textile products; wearing apparel; footwear; glass, cement and other non-metal products; and other manufacturing) do not appear to be very dependent upon these non-African workers with relatively low skills. We can surmise that these workers would be very easily replaced should they all leave. Similarly, quadrant IV sectors (pulp, paper, paperboard; printing and publishing; paints, varnishes and filling material; soap, detergent, pharmaceuticals; matches, inks, candles, glue, and polishes; basic industrial chemicals, petroleum products; rubber products; metal products (except for machinery and vehicles); manufacturing and recondition motor vehicles; manufacture and repair other vehicles and equipment) are not that dependent upon its non-African employees. There are more non-Africans in relation to Africans than in quadrant I, but these non-Africans are also poorly paid and probably not that highly skilled. It would just be a matter of perhaps a very short time before these non-African workers could be replaced.

Quadrants II and III indicate areas of more concern. They represent sectors with more highly paid and/or more numerous non-African employees. Those industries in quadrant II (other foods; soft drinks and carbonated water; tobacco manufactures; cotton ginning, weaving, finishing textiles; sawmills and wood manufacture; furniture and fixtures (non-metal)

ARROWS

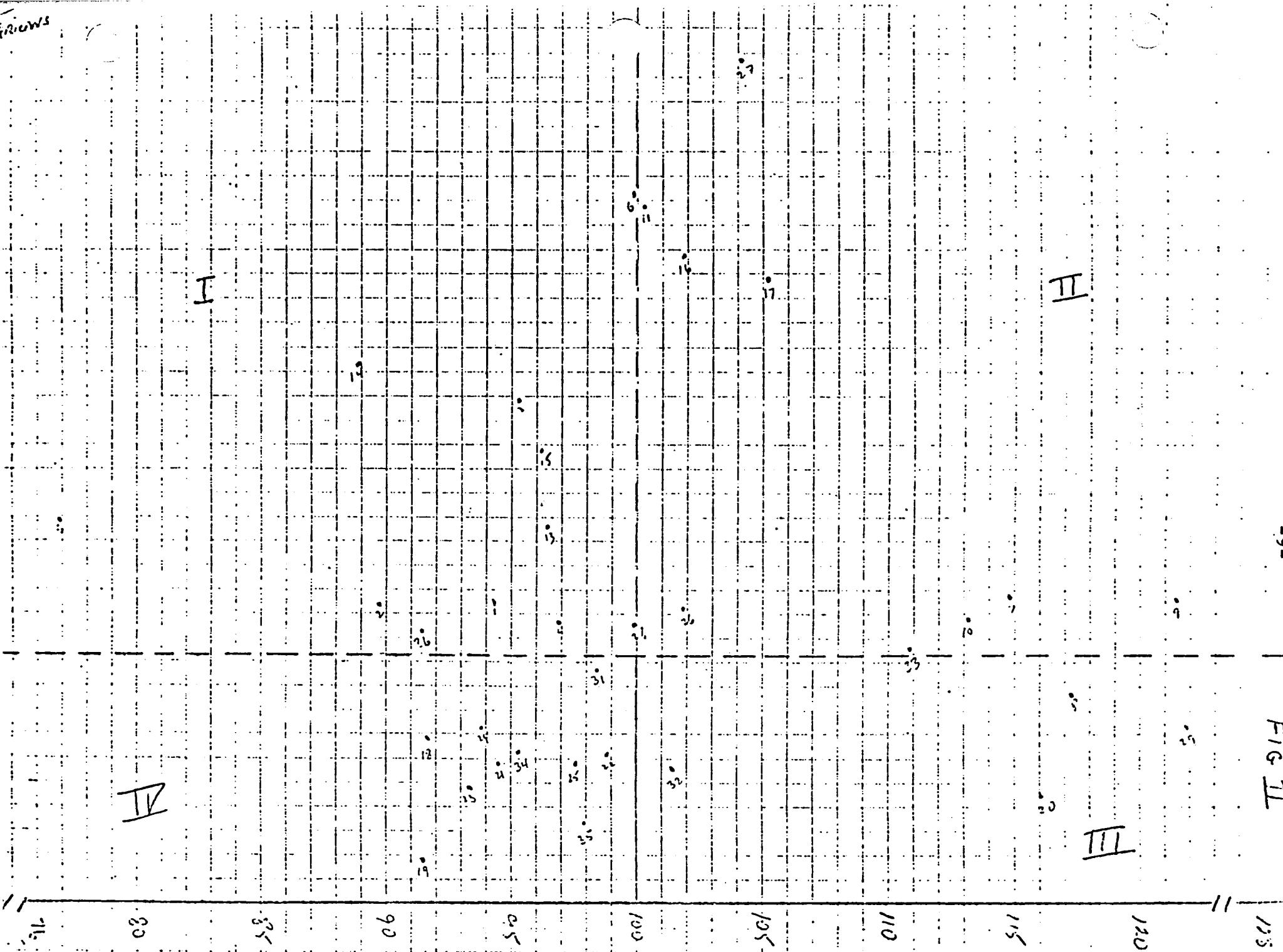


FIG II

Non-African WAGE as % of Non African MANUFACTURING AND

'plastic products; structural clay products (incl. brick); non-ferrous metals basic industries; and electrical machinery and equipment) have very high African to non-African ratios, which suggests that the non-African workers tend to be supervisory or technical staff; in the event of a rapid and massive departure of these workers, most of the sectors within this quadrant would suffer from critical absences of key personnel. This would result in at least short-run disruptions of production. Quadrant III represents those industries with many, well-paid non-African workers (beer, wine and spirits; fertilizer, insecticides and pesticides; iron and steel basic industries; and machinery and engineering except chemical). These undoubtedly comprise management personnel and skilled workers in sectors where there is a great degree of dependence upon a skilled work force. The firms in those sectors would be hardest and longest affected by the departure of non-Africans.

We can see that, within manufacturing as a whole, only a few industries will suffer seriously from loss of non-African staff. Whether these limitations will be of a short-run or a long-run nature, and to what degree they will affect overall output and productivity is something which cannot be accurately determined from the information at hand. There has been a rising trend of Africans to non-Africans over the past ten years, but it is likely that this trend reflects the increased hiring of African workers at jobs of relatively low skill requirements and the supervision of these new employees with skilled non-Africans.

It is useful to examine the scope of multi-national involvement to determine how vulnerable a given sector within manufacturing probably will be to an exodus of non-African workers. The rationale for this is that multi-national

firms can draw upon a vast international pool of skilled employees who may be able to maintain levels of production by replacing non-Africans who decide to leave. These employees can be brought from anywhere. The parent firm has other enterprises, and so is not limited by the size of the domestic labor force. It is virtually impossible to measure the potential for this kind of management and technocratic substitution on the part of the multi-nationals. Given a favorable political and economic environment, it would be in the best interest of the parent company to maintain production levels, thereby insuring a smooth transition as non-Africans leave. If, on the other hand, the multi-nationals face uncertainty regarding their investment, there would be little inducement for them to undertake this kind of work force substitution. We can, however, make some observations on where these multi-nationals seem to be located.

Table 3 below is a list of various sectors in manufacturing grouped together and ranked by value of gross output (in Rhodesian dollars). This gives us a general sense of how important each grouping is vis-a-vis total manufacturing output. Then, we can compare this to a list of multi-nationals by sector and gain some idea of how important multi-nationals are within each group.

There does not seem to be very much information concerning the relative importance of each multi-national corporation within any given sector. The various UN reports (see references) do list Rhodesian corporations that are affiliated to parent corporations originating outside the country. These lists are restricted to simply the name and nationality of the parent corporation, and the major activity of the Rhodesian company.^{5b} Table 4 (see page 13) is a comparison by sector and nationality of the list of these parent firms.

Table 3

Southern Rhodesia: Value of Gross Output by
Manufacturing Groups, 1971

<u>Sector</u>	<u>Value</u> (Thousand Rhodesian dollars)	<u>Percentage of</u> <u>total value</u>	<u>Index of</u> <u>volume</u> (1964=100)
Metals and metal products	170.0	23.0	203.1
Foodstuffs	158.9	21.5	175.3
Chemical and petroleum products	105.2	14.3	166.1
Textiles, including cotton ginning	63.6	8.6	254.5
Clothing and footwear	50.7	6.9	144.9
Beverages and tobacco	48.1	6.5	114.7
Transport equipment and workshops	44.5	6.0	112.1
Non-metallic mineral products	28.9	3.9	238.2
Paper and printing	26.6	3.6	155.3
Wood and furniture	24.5	3.3	161.3
Others	7.1	1.0	124.4
TOTAL	738.1	100.0	168.5

Source: Southern Rhodesia, Monthly Digest of Statistics, (January 1973).
from - UN Report of the ... (1973) p. 108.

Table 4⁶

Sector (from Table 1)	Number of Firms		
	U.K.	S.A.	U.S.
7-Other Food Products	3	0	1
8-Beer Wine and Spirits	0	1	0
9-Soft Drinks and Carbonated Water	1	0	2
10-Tobacco Industries	5	1	0
11-Cotton Ginning, Weaving, Finishing Textiles	0	1	0
14-Wearing Apparel	3	1	1
15-Footwear	0	1	0
16-Saw Mills and Wood Manufacture	1	0	0
18-Pulp, paper, paperboard	2	2	0
19-Printing and Publishing	2	1	1
20-Fertilizer, Insecticides and Pesticides	1	0	0
21-Paints, Varnishes, and Filling Materials	1	0	1
22-Soap, detergent, pharmaceuticals	1	1	3
23-Matches, inks, Candles, Glue and Polishes	1	1	0
24-Basic Industrial Chemicals, Petroleum Products	4	0	2
25-Rubber Products	1	0	1
26-Plastic Products	0	0	3
28-Glass, Cement (Other non-metal Products)	6	5	1
29-Iron and Steel Basic Industries	4	1	0
30-Non-Ferrous Metals Basic Industries	3	1	0
31-Metal Products (Except Machinery and Vehicles)	7	4	0
32-Machinery and Engineering Except Chemical	5	0	2
33-Electrical Machinery and Equipment	8	2	1
34-Manufacturing and Reconditioning of Motor Vehicle	3	0	0
35-Manufacturing and Repair of Other Vehicles and Equipment	1	0	0
TOTALS:	63	23	19

Source: From UN Report of the Special..., 1976, Tables 12, 13, 14 pp. 122-147.

From Tables 3 and 4, we can make a table that totals the numbers of multi-nationals by sector to see what sort of distribution of multi-nationals occurs.

The first column in the table below lists the numbers of the sectors from Table 1 which correspond to the sector headings from Table 3; the second column gives the number of multi-nationals based on Table 4.

Table 5

<u>Sector</u>	<u>Corresponding Sectors</u>	<u>Number of Multi-national</u>
Metals and Metal Products	29,30,31	20
Foodstuffs	1,2,3,4,5,6,7	4
Chemicals and Petroleum Products	20,21,22,23,24,25,26	21
Textiles, including cotton ginning	11,12,13	1
Clothing and Footwear	14,15	6
Beverages and Tobacco	8,9,10	10
Transport Equipment and Workshops	32,33,34,35	22
Non-Metallic Mineral Products	27,28	12
Paper and Printing	18,19	8
Wood and Furniture	16,17	1
Others	36	0

This table only gives us the number of firms within each sector that represents multi-national interests. It does not provide any measure of the extent of the overall involvement and investment within the Rhodesian economy. Without further study, we cannot really tell much about their role in the economy.^{6a}

The data which we have concerning the size of firms within the economy are in the three tables in the Appendix. These tables list leading commercial and industrial companies in terms of either gross tangible assets, market capitali-

zation, and net taxed profits. Altogether, there are nineteen different firms which comprise the top ten to twelve firms on each list. Of these, fourteen are owned by foreign based companies and only five are listed as being Rhodesian companies. These fourteen firms broken down by nationality are eight South African, five British, and one from the United States. Of these fourteen, eleven can be listed as having something to do with manufacturing in some way, but only in five sectors (7,8,10,19 and 28). Almost half of these companies, five out of the eleven, are in sector 28 (Glass, cement) and are primarily in the cement industry.

From the information above, we can say that multi-nationals are very important in the manufacturing economy, at times they can be very large, and they seem to concentrate in certain sectors. On the assumption that numbers indicate importance, we examine those sectors which contain the greatest number of multi-nationals (Metals and metal products, Chemicals and petroleum products, and Transport equipment and workshops). Averaging the average earnings for the three groups, we find that the non-Africans do not earn significantly more here than elsewhere in manufacturing. Their average earnings for the three sector groups listed above are 99.46, 116.11, and 101.38 respectively (these figures are as a percentage of average income for manufacturing). There is nothing to indicate any greater skill other than in the Metals and Metal Products sectors. More important perhaps, is that more than half (50.84%) of the non-African manufacturing work force is employed within these three groups (based on the 1972 figures in Table 1). In addition, we note that the average income for African workers in these three groups is 123.77, 105.57, and 114.71 respectively. The three groups employ just over a third of the African work

force in manufacturing (33.63%), and maintain a 4.21 ratio of African to non-African workers. This African to non-African ratio is slightly below the average for manufacturing as a whole.

It is important not to make too much out of all this. We can not be sure what part of those workers within each sector work for multi-nationals, how many of them are Africans or non-Africans, and how much they earn. Many reports claim, in fact, that multi-nationals are attracted by the ability to hire Africans at low wages. We can say, however, most indications seem to be that within the sectors under consideration, there are many Africans receiving relatively high wages. It may well be that in those sectors, local firms must pay Africans higher wages because of a combination of a shortage of non-African skilled labor, and whatever skilled labor is available prefers to be hired by multi-nationals for reasons such as fringe benefits and social prestige.⁷

II. The composition of the African skilled work force

Given that there may be greater numbers of more skilled African workers in certain sectors, we still can not make any statements as to how skilled these workers are. A 1964 study of the manpower requirements in Rhodesia for the years 1961-1970⁸ does give us some clue to the general distribution of various levels of skill for both African and non-African workers. This study addresses itself to the question of high level manpower within the work force. The work force is broken down into four basic categories (see next page):

- I. "Professional-administrative": -graduated from university or some form of post secondary education
 -senior civil servants
 -directors and senior management personnel of large establishments
 -all professionals e.g. lawyers, doctors, engineers, etc.
 -secondary school teachers
- II. "Technical-executive": -some post secondary education in either technical or non-technical schools
 -teacher training
 -high level civil servants
 -sub-professionals e.g. lab technicians, draftsmen, nurses, and etc.
 -lower secondary school teachers
- III. "Skilled": -some secondary schooling
 -technical training in some apprenticeship program or specialized teaching program
 -civil service clerks, primary level supervisors and foremen, primary school teachers, advanced farmers, general clerical staff, and basic craftsmen
- IV. "All others": -unskilled and semiskilled laborers, assistants, etc.

If we examine the findings of this report, we can set up the following table^{8a} based on the notion that we are interested in the workers in the first three categories of their study:

Table 6
High level manpower in Rhodesia (1961)

	<u>Category I</u>	<u>Category II</u>	<u>Category III</u>
<u>Non-African</u>			
"Other"	3640	13260	39500
Manufacturing	590	2510	10130
Manufacturing as % of "Other"	16.21	18.93	25.65
Category as % of total Man.	4.46	18.97	76.57
<u>African</u>			
"Other"	30	120	11450
Derived Manufacturing	5	23	2937
Category as % of Total Man.	0.17	0.78	99.05

The study only gives a breakdown of manufacturing for non-African workers, so that if we assume that manufacturing as a percent of the total "other" figure does not increase for Africans, we can derive some sort of relative maximum number of African workers in manufacturing. Two very important things become evident immediately - the first is that even given an increase over time to the present, the total number of Africans in the first two categories is insignificant. In addition, an examination of registered apprenticeship contracts reveals that up until 1970 there were a total of only 214 new African apprentices. Assuming that these programs take upwards of five years, apprentices who entered into contracts after 1971 would just now be entering the labor force as skilled workers. This increase does little to effect the total number of skilled African workers.⁹ The second point that can be made is that for all practical purposes, African skilled workers fall into category III. This would imply that for the industries we selected on the basis of income levels and union representation for Africans, the level of African skill attainment is still low.¹⁰

If most of the high-level non-African workers in the first two categories leave the country, there would be a great difficulty replacing them quickly with African workers. One possibility that might be worth mentioning is that if many category III non-Africans remain, and some portion of both the African and non-African workers are under-employed, that is they are performing tasks below their skill levels, then the effect of a massive high level withdrawal might be lessened somewhat.¹¹

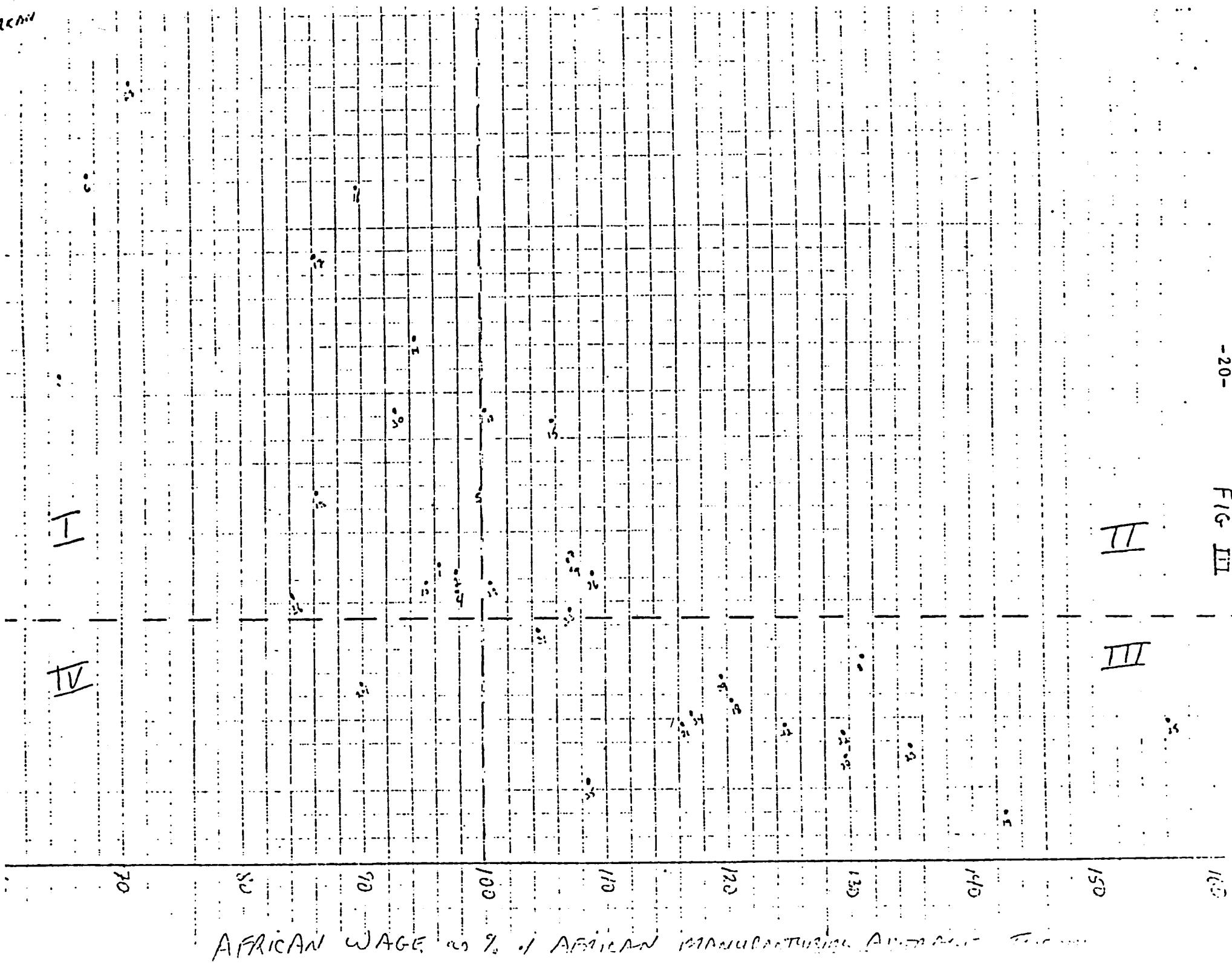
We must at this point qualify our statements regarding the skill levels of African workers. Figure III represents the relationship of high wages to African employees to the African/non-African worker ratios. Upon examining

Figure III, we see that there seems to be a definite trend in which more highly paid Africans appear in those industries which have very low African to non-African ratios. All thirteen sectors in quadrant III have a combined average ratio of only 2.97 Africans for each non-African. If we further limit this group to the eleven highest paid, it drops even further to only 2.92 Africans for each non-African. This is close to half the average for all manufacturing.

Most of the sectors for manufacturing fall either in quadrants I or III. With few exceptions, the remainder are clustered fairly close to the center. We can therefore generalize that African workers on the low end of the pay scale tend to be in very "African" sectors, those receiving average wages tend to be in sectors with slightly above the average number of African employees for manufacturing and those paid the most are in sectors that can be called heavily "non-African". We can also point out that for the most part those sectors which are in quadrant I in Figure III are also in quadrant II in Figure II.

There are two ways to explain the situation in which Africans receiving the highest wages are in sectors with the lowest African to non-African worker ratios. First, we can assume that the greater the number of non-Africans employed vis-a-vis African workers, the higher the wage level in that sector. In this way, we might assume that high African wages can be attributed to their benefiting from higher wages in that sector in general. We do not have lists of non-African unions, but we can make some observations based on the wage information in Table 1. With only two exceptions, the non-African workers receive average or below average wages for manufacturing in those sectors with highly paid Africans. It appears that we cannot attribute high African wages

FIG III



AFRICAN WAGE as % of AFRICAN MANUFACTURING AVERAGE

to a high wage level in any given sector in general. We can now posit another explanation.

As I have already pointed out, there is no clear statement regarding the requirements for skilled workers. We can, however, draw some conclusions based upon the information on hand. The Overseas Business Report's Market Profile for 1976 reports that "Europeans comprise the majority of skilled labor. European unemployment (is) insignificant..."¹² In 1972, Harris reported that there was an 8.6% vacancy rate in trades designated for training in terms of the Apprenticeship Training and Skilled Manpower Development Act.¹³ Europeans, constituting the majority of the skilled workers in the country, are fully employed. African Research Bulletin reports indicate that the issue of a shortage of skilled labor is central to Rhodesia's economic situation.

There is a shortage of skilled manpower and a need for more training of artisans and others.¹⁴

concern about the shortage of skilled manpower which could only be immediately overcome through immigration despite local crash training programs.¹⁵

The immediate problems facing the economy are too rapid expansion with shortages of some industrial inputs, especially in the oil derivative field, a scarcity of labor, and transportation bottlenecks.¹⁶

In general, these statements point to a need for more skilled workers arising from an inability to meet skilled worker requirements from within the non-African community. We can now view those sectors in quadrant III as possibly having a high demand for skilled workers. These jobs are traditionally held by non-Africans, accounting for the low African to non-African worker ratios. A shortage of skilled workers may force businesses to rely more heavily on African workers, to train them to perform the tasks required, and to pay them higher wages to insure they will not take their skills elsewhere. This, then,

might account for the fact that those Africans with the highest wages are in sectors with the lowest proportion of African workers. These sectors will be seriously handicapped by the loss of their skilled non-African workers, but at the same time they may be in a position to rapidly upgrade its African work force and maintain some level of production.

One final generalization we can make from this material is in regard to the educational system in Rhodesia. Effectively, all teachers above the lower secondary school level are non-Africans. If they should leave, there may not be an adequate supply of teachers in the system. This would mean that before the Africans could educate sufficient numbers to effectively replace non-African skilled workers, they would first have to create an adequate supply of teachers for the secondary and post secondary schools. This would require at the very least two to three years of teacher training and then another three to five years of worker training before one noticed any significant increase in skill levels of the African workers. This time would be shortened significantly if secondary and post secondary school teachers were employed immediately, and workers received specialized training designed specifically for a given job. In any event, there would be some time lag which would affect production within various sectors of manufacturing. Without more data, it would be impossible to make a more detailed appraisal.

Summary

It would appear that most of the African workers that can be called skilled perform functions which are at best on the lower end of the range of necessary skills. This, however, can only be used as an approximation of the actual potential for African workers to replace skilled non-African. It would also appear that in the past 10-15 years, there has not been any

meaningful number of Africans entering into apprenticeship programs. As a result, there is no expected increase in the actual level of skills among African workers.

Non-African skilled workers most often appear in industries with relatively low African to non-African worker ratios. This implies that these industries are heavily dependent upon their skilled non-African workers. Unless there was a situation of a relative surplus of skilled Africans, or of large numbers of underemployed Africans with the necessary skills but not permitted to work under the present regime, one can assume that in the short run at least, a loss of these skilled non-Africans will result in serious problems in those sectors under consideration.

AppendixTable 1

Southern Rhodesia: leading commercial and industrial companies
in terms of gross tangible assets a/
 (million Southern Rhodesian dollars) b/

<u>Parent company</u>	<u>Nationality</u>	<u>Southern Rhodesian subsidiary</u>	<u>Gross tangible assets</u>
Medbank Holdings	South Africa	Rhodesian Banking Corporation, Ltd. (RHOBANK)	131.5
...	...	Rhodesian Acceptances, Ltd.	52.8
South African Breweries, Ltd.	South Africa	Rhodesian Breweries, Ltd. (RHOBREW)	42.3
...	...	TA Holdings, Ltd.	33.9
Anglo American Corporation of South Africa, Ltd.	South Africa	Hippo Valley Estates, Ltd.	27.2
Unilever, Ltd.	United Kingdom	FRECOR Group of Companies	25.6
Lourho, Ltd.	United Kingdom	David Whitehead and Sons (Rhodesia), Ltd.	12.7
Roskar Investments (Pvt.), Ltd.	...	Morewear Industrial Holdings, Ltd.	10.7
G.A. Ware Holdings	...		
American Cigarette Company Overseas (Pvt.), Ltd.	United States of America	Rothmans of Pall Mall (Rhodesia), Ltd.	10.2
Plate Glass Company	South Africa	Plate Glass Industries (Rhodesia), Ltd.	9.0
Associated Portland Cement Manufacturers, Ltd.	United Kingdom	Salisbury Portland Cement Company, Ltd.	8.3
White's South African Portland Cement Company, Ltd.	South Africa		
Tate and Lyle Company, Ltd.	United Kingdom	Rhodesia Sugar Refineries, Ltd.	5.0

Source: The Rhodesia Herald - Business Herald, 15 August 1974.

a/ Covering 1973 or 1974. See para. 5 above.

b/ In 1974, the nominal exchange rate of the Southern Rhodesian dollar fluctuated between \$US 1.20 and \$US 1.63.

Table 2

Southern Rhodesia: leading commercial and industrial companies
in terms of market capitalization at 3 July 1974

(million Southern Rhodesian dollars)

<u>Parent company</u>	<u>Nationality</u>	<u>Southern Rhodesian subsidiary</u>	<u>Market capitalization</u>
South African Breweries, Ltd.	South Africa	Rhodesian Breweries, Ltd. (RHOBREW)	73.9
Anglo American Corporation of South Africa, Ltd.	South Africa	Hippo Valley Estates, Ltd.	35.3
Lonrho, Ltd.	United Kingdom	David Whitehead and Sons (Rhodesia), Ltd.	31.5
Nedbank Holdings	South Africa	Rhodesian Banking Corporation, Ltd. (RHOBANK)	19.9
...	...	Rhodesian Acceptances, Ltd.	15.3
...	...	TA Holdings, Ltd.	15.1
Midlands Bank	United Kingdom	Rhodesian Cables, Ltd.	14.7
Plate Glass Company	South Africa	Plate Glass Industries (Rhodesia), Ltd.	13.6
Argus Printing and Publishing	South Africa	Rhodesian Printing and Publishing Company, Ltd. (RP and P)	12.5
Premier Portland Cement Company, Ltd.)	South Africa	Premier Portland Cement Company (Rhodesia), Ltd.	11.3
Anglo America Corporation of South Africa, Ltd.)			

Source: The Rhodesia Herald - Business Herald, 15 August 1974.

1...

Table 3

Southern Rhodesia: leading commercial and industrial companies
in terms of net taxed profits: a/
(million Southern Rhodesian dollars)

<u>Parent Company</u>	<u>Nationality</u>	<u>Southern Rhodesian subsidiary</u>	<u>Net taxed profits</u>
South African Breweries, Ltd.	South Africa	Rhodesian Breweries, Ltd. (RHOBREW)	4.8
Anglo American Corporation of South Africa, Ltd.	South Africa	Hippo Valley Estates, Ltd.	2.5
Lonrho, Ltd.	United Kingdom	David Whitehead and Sons (Rhodesia), Ltd.	1.6
Premier Portland Cement Company, Ltd.)	South Africa	Premier Portland Cement Company (Rhodesia), Ltd.	1.3
Anglo American Corporation of South Africa, Ltd.)			
Pretoria Portland Cement Company, Ltd.	South Africa	Rhodesia Cement, Ltd. (RHOCEM)	1.2
...	...	TA Holdings, Ltd.	1.2
Plate Glass Company	South Africa	Plate Glass Industries (Rhodesia), Ltd.	1.1
Nedbank Holdings	South Africa	Rhodesian Banking Corporation, Ltd. (RHOBANK)	1.0
American Cigarette Company Overseas (Pvt.), Ltd.	United States	Rothmans of Pall Mall (Rhodesia), Ltd.	1.0 <u>b/</u>
...	...	Mashonaland Holdings	1.0

Source: The Rhodesia Herald - Business Herald, 15 August 1974.

a/ Covering 1973 or 1974. See para. 5 above.

b/ Estimate based on nine months ending 31 March 1974.

Tables 1,2 and 3 are from the UN Report of the..., 1975 Annex pp6-8

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Footnotes

¹The only estimates I found were in the UCRN report on manpower requirement, done in 1963 for the period 1961 to 1970. See references.

²Van Heerden, J. "The Labor Force", p. 61, in Leister, G.M.E. (ed.)

³See P.S. Harris, "Government Policy and...", p. 41; and Harris, "Industrial Relations in Rhodesia", p. 67.

⁴Van Heerden, J., op. cit.

⁵Ibid., p. 62.

^{5a}Source: Calculations based on data in Tables 14 (African Employees by Industrial Sector) and Table 15 (European, Asian, and Coloured Employees by Industrial Sector) in Monthly Digest of Statistics, May 1976, pp. 11-12.

^{5b}It is not even certain from these lists that the "parent" firms are not themselves subsidiaries of yet larger multi-nationals. This point is especially important since many of the largest companies in Rhodesia are South African owned. Many of the South African companies are probably in turn subsidiaries of British companies, but that is important only if we want to investigate the composition of multi-nationals rather than their presence and impact.

⁶There may be some differences in these figures - the Directory of American Firms Operating in Foreign Countries, pp. 1324-1327 lists 21 U.S. firms in Rhodesia that have something to do with manufacturing.

^{6a}Stoneman in "Foreign Capital and ...", p. 48 makes the following distinctions regarding the importance of foreign capital: a) Foreign capital is dominant: beverages; tobacco; chemicals and chemical products. b) Foreign capital more important than domestic capital: basic metal and metal products; building and construction. c) Foreign and domestic capital of equal importance: spinning, weaving and clothing; non-metallic mineral products; machinery; transport equipment; paper, pulp, printing and publishing; food manufacture; other manufacturing. d) Domestic capital dominant: wood, cork, and furniture.

⁷Rogers, White Wealth and Black Poverty, p. 221 states that "the proportion of Africans employed by foreign companies is, by comparison, negligible...".

⁸The Requirements and Supplies..., tables 2 and 3, pp. 5-6.

^{8a}Source: The Requirements and Supplies..., pp. 5-6.

⁹ See especially Harris, "Industrial Workers in Rhodesia..." p. 146. He estimates that in 1972 only about 2.98% of the African industrial labor force can be called skilled, another 20,000 (approx. 5%) have some degree of job security because of skills, and 30,000 (8.91%) can be considered semi-skilled at best, but were easily replaced. More importantly, however, is the fact that in both this article (p. 147) and in his "Government Policy and..." article (pp. 44-45) Harris points out that newly skilled Africans tend to be restricted to the building and construction trades.

¹⁰ Harris, "Industrial Workers...", p. 147 argues, however, that Africans are making advances despite structural handicaps within the society.

¹¹ But if we accept Harris' estimate (Note 9) then there are at best only about 30,000 African workers that are in the three categories as defined by the UCRN report to replace non-African workers if needed.

¹² Overseas Business Report, OBR 76-05, Feb. 1976, p. 33; also, UN Report of the..., 1976, Appendix III, pp. 113-114, reports that all indicators point toward full employment for Europeans in Rhodesia.

¹³ Harris, "Economic Incentives...", p. 72.

¹⁴ African Research Bulletin, Vol. 11, #4, May 31, 1974, p. 3095C.

¹⁵ Ibid., Vol. 11, #8, September 31, 1974, p. 3225A; also, the Rogers book (op. cit.) points out that "immigration is causing a shortage of skilled in most trades.", p. 222.

¹⁶ African Research Bulletin, Vol. 11, #9, October 31, 1974, p. 3255C.

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