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THE LOCATION OF MANUFACTURING INDUSTRY IN RHODESIA UP TO 1953

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The Second World War and the years that followed it are a critical period in the industrialization of the Rhodesian economy. Before the outbreak of the war Rhodesia had depended to a large extent on imported manufactured goods, while exporting primary goods. On the outbreak of the war, overseas sources of manufactures were virtually cut off and the country was compelled to turn to its own resources and the ingenuity of its inhabitants. Shortages of essential manufactures such as steel and machinery persisted even after the end of the war in 1945. In addition, the expansion of a local manufacturing industry was stimulated by the post-war influx of immigrants and capital. As a result, by 1953 when the Central African Federation was established, Rhodesia already possessed a much larger and more diversified industrial sector than its partners. Gross manufacturing output had increased from £5,1 million in 1938 to £55,6 million in 1952, and employment in manufacturing increased fourfold from 17 554 to 67 975 during the same period. Exports of secondary industries accounted for 26 per cent of the total value of exports in 1952 compared with less than 10 per cent before the war. There had been some small-scale manufacturing industry in the country almost from the beginning of European settlement at the end of the nineteenth century, but large scale development did not take place until the 1940's. Thus, some of the more significant industries that were established between 1940 and 1953 include iron and steel works, cotton spinning and weaving mills, clothing and shoe manufacture, and ferro-chrome processing.

The decision to locate an industry at a particular place depends on the consideration of a wide variety of economic and non-economic factors. These include the availability and costs of transport facilities, access to raw materials and markets, infrastructure and services required by industry, the presence of financial institutions, as well as numerous social and personal considerations. Locational analysts have attempted to formulate general theories of location based on economic cost considerations alone. Yet others, appreciative of the importance of non-economic and therefore unquantifiable factors in industrial location, are more interested in finding explanations for the actual spatial patterns rather than the ideal locations. As Conkling and Yeates (1976) have stated,

> 'More often than not the gap between the rational and the actual has been found to lie in the realm of human behaviour. Locations are the outcome of human decisions, and human beings are sometimes swayed by noneconomic considerations when making such selections' (p.108)

Some of the factors that have influenced the location of manufacturing activity in the early stages of industrial development in Rhodesia are examined in this paper. It is argued that the basic patterns of the spatial distribution of industry in Rhodesia had been established within a few decades after the arrival of the European settlers at the end of the nineteenth century. An understanding of the locational influences operating at that time is therefore important in any attempt to explain the present-day distribution of manufacturing industry in Rhodesia.

Once an industrial centre has been successfully established, there often develops a tendency for an increasing concentration of manufacturing activity at that place. The success of that centre in attracting further activity will depend in part upon its ability to provide the necessary facilities and infrastructure required by industry. The process whereby industrial growth becomes increasingly concentrated at these favoured centres while the rest of the country remains more or less an economic backwater has been described by Myrdal (1964) as the process of circular and cumulative causation. The process may be illustrated briefly in the following terms. The location of a new firm that sells its products to a wide market outside the urban limits, whether in the regional, national or international markets, is likely to have three direct effects (Moseley, 1974). It is likely to result in an increase in employment and hence in the population of the town; it will stimulate and perhaps attract other firms whose goods and services it requires; and it will result in an increase in the tax or financial base of the town. Each of these effects in turn will result in the further expansion of the town's economic activities, as well as in the demand for services and the money available to provide them. Therefore, towns that are able to attract industry generally grow more rapidly than the smaller and less attractive centres, unless government or some other authority intervenes to check the operation of the process of circular and cumulative causation. Thus, the growth potential of a town depends upon its ability to create and attract productive resources as well as to produce goods and services demanded in the regional and national markets. It must act as a magnet for migrants, outside capital, non-local managerial talent and innovations (Richardson, 1969). The increase in the concentration of industry at the favoured localities will generate a whole range of cost advantages that are collectively referred to as agglomeration economies. These are usually divided into three categories: internal economies, localization or external economies, and urbanization economies.

POPULATION, MARKET AND LABOUR

In Rhodesia these agglomeration economies, although initially on a limited scale, were more likely to be obtained by locating in Salisbury or in Bulawayo than in any of the other smaller centres. By 1898, eight years after the start of European settlement, Bulawayo and its surrounding district had an estimated white population of 7 500 and Salisbury had approximately 3 000. Other centres already lagged far behind, with an estimated 1 330 Europeans in the Umtali area and 798 in Gwelo. It is important to identify the original factors that created the initial differences in growth rates of these newly established towns almost from the beginning and hence were to a large extent responsible for the disparity in their ability to attract manufacturing industry. According to Myrdal (1964),

> 'the power of attraction today of a centre has its origin mainly in the historical accident that something was once started there, and not in a number of other places where it could equally well or better have been started, and that the start met with success. Thereafter the ever-increasing internal and external economies . . . fortified and sustained their continuous growth at the expense of other localities and regions where instead relative stagnation or regression became the pattern' (p.26-27).

In Rhodesia, it is suggested that two historical factors were critical in establishing the primacy of Salisbury and Bulawayo both as the major urban

centres and, arising from this, as the chief industrial centres of the country. Firstly, there was the decision of the B.S.A. Company to establish these two towns as the principal administrative centres in the country. The second factor was the concentration of prospecting and mining activity in the areas surrounding these two centres. The cumulative effect of these two forces was to concentrate administrative, commercial, financial, and, as it came, industrial activities into Bulawayo and Salisbury. As a result, the population of these two towns grew more rapidly than that of any other centre. At each census up to that of 1951, at least three-quarters of the European population in the six main towns, and about the same proportion of Africans in urban employment, resided in Salisbury and Bulawayo (Tables 1 and 2). The proportion of whites relative to the national total who were resident in these two towns was increasing at each census date, from 36,7 per cent in 1911 to 43,1 per cent in 1931. By 1951, 52,6 per cent of all the Europeans in Rhodesia were resident in Salisbury and Bulawayo.

TABLE 1

PERCENTAGE DISTRIBUTION OF EUROPEAN POPULATION IN THE MAIN TOWNS AT CENSUS YEARS, 1911 TO 1951

Census Year	1911	1921	1926	1931	1936	1941	1946	1951
Salisbury	32,2	34,2	36,5	36,9	39,3	43,9	46,7	46,6
Bulawayo	48,1	44,3	41,2	45,5	42,6	40,1	38,4	37,1
Umtali	9,7	9,9	9,7	8,0	7,4	6,4	6,1	6,6
Gwelo	5,3	5,6	6,1	4,8	5,1	5,7	5,4	5,9
Que Que *	0,9	3,2	3,5	2,5	3,0	2,3	2,4	2,0
Gatooma	3,8	2,8	3,0	2,3	2,6	1,6	1,9	1,8
Total %	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Total No.	10 818	16 541	20 053	26 100	28 952	41 431	45 640	86 701

* excluding Redcliff.
SOURCES: Reports on the Census of Population of S. Rhodesia, 1911 to 1951.

TABLE 2

PERCENTAGE DISTRIBUTION OF AFRICANS IN ALL TYPES OF EMPLOYMENT IN THE SIX MAIN URBAN CENTRES AT CENSUS YEARS, 1931 TO 1951

Census	1931	1936	1941	1946	1951
Salisbury	37,8	44,3	46,7	46,3	46,2
Bulawayo	40,4	33,6	31,1	33,5	34,9
Umtali	8,2	8,2	7,8	7,0	6,6
Gwelo	4,6	4,8	7,5	7,3	6,3
Que Que *	6,3	5,7	5,4	3,9	3,1
Gatooma	2,7	3,8	2,3	2,4	2,8
Total %	100,0	100,0	100,0	100,0	100,0
Total No.	39 963	45 550	68 546	99 388	163 314

* excluding Redcliff.
SOURCES: Reports on the Census of Population of S. Rhodesia, 1931 to 1951.

At the 1951 census, there were 60 132 European income-earners in Rhodesia, of whom 68 per cent lived in the six main urban centres of Salisbury, Bulawayo, Umtali, Gwelo, Que Que and Gatooma. But Salisbury had 33,2 per cent of all the income-earners and another 24,8 per cent were in Bulawayo. Umtali, the third largest town in the country, had 4,2 per cent and Gwelo had 3,6 per cent of the total. Furthermore, there were more Europeans in the higher income categories, who were therefore potential customers and investors, in Salisbury and Bulawayo than in the smaller centres. There were 3 590 whites in Salisbury and 2 206 in Bulawayo with annual incomes in excess of £1 000 per person. The other four towns had a combined total of only 823 people with incomes exceeding £1 000 per year. In the rural areas, there were more European income-earners in the Salisbury and Bulawayo districts than in any other district.

Given such a spatial pattern of the internal market for local manufacturers, it was quite logical that prospective industrialists should be drawn to the two largest towns unless there were exceptionally strong reasons for locating elsewhere. Moreover, the larger populations of Salisbury and Bulawayo helped to improve the towns' financial bases so that they were able to provide cheaper and larger public utilities (water, electricity and sewerage disposal) at an earlier date than the smaller centres. These in turn enhanced the attractiveness of the two towns to manufacturing industry.

As far as population size was concerned, it seems that the market factor was generally a more important consideration in the location of industries than was the availability of labour. This was because most of the industries were operated with a very small European labour force, while many of them were little more than family enteprises. In 1943, for instance, 61 per cent of all the industrial establishments in Rhodesia employed less than 5 European workers each. Some of the larger industries that were established during the 1940's and 1950's — for example, the shoe industry, cotton textiles and clothing factories, iron and steel — had to specially import skilled labour from overseas, particularly from Britain. Such contracted labour would not exercise much influence on the location of industry. African labour on the other hand was mobile and more or less semi-ubiquitous to the extent that it hardly had any effect on the location of industry. Instead it followed industry, rather than industry following labour.

TRANSPORT AND LOCATION

In the absence of an adequate road transport system, rail transport was extremely important in the economic development of Rhodesia. Therefore only those places situated on the main railway line could be considered to have the potential for industrial development. Railway transport costs would therefore be expected to have exerted a major influence on the location and distribution of industry. In Rhodesia, however, it seems that the effect of transport costs was not as marked as is often the case in other countries. For instance, when Salisbury and Bulawayo were finally linked by rail in 1903, the equipose of cost was set at Gwelo for traffic from Cape Town, 1 475 miles away and that from Beira, 497 miles away (Rhodesia Railway Reform Committee, 1903). By then the oldest urban settlement in Rhodesia was only 13 years old and little differential industrial growth had taken place as yet. But Gwelo failed to capitalize on its advantage of being the least-transport-cost-point by attracting industry. Even when this discrepancy was removed as

a result of public pressure in Mashonaland, anomalies continued to exist in the railway rating structure which would be expected to have stultified the growth of Salisbury. Until 1952 when a major tariff review was carried out by the Rhodesia Railways, ordinary rates (i.e. classes 1 to 10 in the tariff books) were higher on the Beira-Salisbury line than on the lines west of the capital (Rhodesia Railways, 1952). But in spite of this obvious disadvantage, Salisbury was able to compete more or less equally with Bulawayo and attracted a large proportion of new industrial investment from the beginning of European settlement in the country.

Another disadvantage relating to transport on the Beira-Salisbury railway line was the fact that for a long time the port of Beira, the nearest outlet to the sea for Rhodesia, was purely a lighterage port. It was also characterized by long delays, congestion and inefficiency on the part of the port authorities, the Mozambique Company (Hammond Report, 1926). As a result, shipping companies generally avoided it, preferring to use the South African ports which, in any case, were nearer to Europe. Because of the difficulties of trading through the port of Beira, well over half the annual trade of Rhodesia was carried by rail through Bulawayo to and from the South African ports, in spite of the longer distances involved. Moreover, Bulawayo provided the only rail link with Northern Rhodesia (Zambia) and the Belgian Congo (Zaire). These countries, together with South Africa, were extremely important as markets for Rhodesia's exports of manufactured goods; Northern Rhodesia and the Belgian Congo alone accounted for 93,1 per cent of this country's manufactured exports. Before 1945 these exports consisted mainly of processed agricultural products such as wheat and maize meal, meat, cheese and butter, as well as cement.

The rating policies of the Rhodesia Railways also had a significant role in creating conditions that favoured the concentration of manufacturing industry in the two largest towns. Since the construction of the lines, the Railways had carried primary raw materials at low rates in order to encourage their export and this had necessitated the imposition of higher transport charges on imported consumer goods to keep the railways economically viable. With the commencement of local processing industries, materials consigned to these processing centres also benefitted under the lower rates while higher charges were applied to the goods manufactured from these materials. This policy had the effect of encouraging industrialists to locate their plants in the large centres where there was a market for their goods and to transport the raw materials from the primary production areas. This discouraged the establishment of industries at the sources of their materials, which might have reduced the concentration of manufacturing in Salisbury and Bulawayo.

In order to encourage the expansion of commercial enterprises engaged in the export-import trade, the Rhodesia Railways also offered reduced re-forwarding rates for certain towns which were involved in the distribution of imported manufactured goods. Without these preferential rates, such commercial enterprises would probably have located at the ports from where they could distribute their goods to all parts of Central Africa. However, from about 1924, the Railways agreed to extend these re-forwarding rates to locally manufactured products, thereby setting up what were known as 'Distribution Rates'. These rates were applicable to (a) imported goods originally received by rail from Beira or from South Africa, (b) goods wholly or partly manufactured in Rhodesia, and (c) goods locally manufactured at the distribution

centre concerned. But they were not applicable to every distribution centre equally. The larger towns were made distribution centres not only for locally manufactured products, but also for imported goods as well as for goods manufactured elsewhere in Rhodesia. At the smaller towns on the other hand, distribution rates were generally restricted only to those goods that had been produced at the centre. This tended to attract manufacturing activity to the larger towns, to the detriment of the smaller ones. According to a Federal Assembly Select Committee on Decentralization (1957), the granting of distribution rates from the 1920's that favoured the large towns marked the stage 'at which the rating policy of the Rhodesia Railways acquired characteristics which encourage over-concentration'. Whereas in 1933 distribution rates were applicable to Bulawayo, Salisbury, Umtali, Gwelo and Gatooma, by 1952 they had been extended to the smaller settlements of Gado Siding (near Redcliff), Marandellas, Que Que, West Nicholson and to Rodia Siding (near Salisbury), But only Salisbury and Bulawayo enjoyed the full range of advantages derived from the distribution rates. At Que Que they were restricted only to iron and steel products consigned from there; at Gado only iron and steel consigned from the steelworks enjoyed them; at Marandellas it was tea and coffee from the factory there; and at West Nicholson distribution rates were limited to consignments of meat and vegetable products from the factory located there.

Therefore, between the two large towns, Bulawayo enjoyed considerable advantages as a potential industrial centre because of its large population, public utilities, and its position on the major transport junction which made it an important assembly and distribution point for Rhodesia and its neighbouring countries. As a result, it was able to develop into one of the two leading manufacturing centres in the country. In particular, it attracted the heavier types of industry. By 1956 the three largest industrial groups in Bulawayo were metal engineering, clothing and textiles, and food and beverages. No figures are available for earlier periods on which to make comparisons, but in 1956 metal engineering industries in Bulawayo employed 46,5 per cent of the 4 266 Europeans and 21,2 per cent of the 20 495 non-Europeans in manufacturing in the town ('Rhodesian Industrialist', Vol. 19, No. 2, 1957). Clothing and textiles on the other hand accounted for 5,3 per cent and 21,5 per cent respectively of the white and non-white employment in manufacturing. Some of these engineering firms were almost as old as the town itself, and had gradually expanded their businesses, especially after 1945. They included the firms of F. Issels and Son (established in 1895), Copthalls (1897), Hogarths (1910), and the Rhodesian Tin and Steelware Manufacturers (Monarch) (1911).

Salisbury on the other hand tended to attract mainly consumer goods industries. By the 1950's it was dominated by food, drink and tobacco industries, furniture and woodworking, paper and allied industries, and chemical industries such as the manufacture of soaps, fertilizers, paints and matches. Its growth as an industrial town was due primarily to its position as the largest population centre, the national capital, as well as its situation in the midst of the most important agricultural area in the country. These factors tended to favour the growth of consumer goods industries in particular.

ACCESS TO RAW MATERIALS

In the smaller towns there had existed some form of industry for a long time, such as engineering and repair workshops, brickmaking, manufacture of soft drinks, confectionery and bakery products. These industries generally

concentrated on supplying the needs of the immediate neighbourhood and were usually very small in all respects.

Larger industrial establishments were developed in these centres only when there was a particular advantage to be gained from such a location. Certain industries found it advantageous to locate at or close to their sources of raw materials in order to reduce costs of assembly. This was particularly the case where the materials were too bulky or were more expensive to transport per unit of output than the finished product. In many cases these material-oriented industries constituted the most dominant manufacturing establishment in the small towns, and were responsible for much of the employment in industry. For instance, by 1952 Que Que-Redcliff were dominated by iron and steel and steel products industries. In Umtali the leading industries were timber and food processing, and meat processing factories also dominated in Fort Victoria and at West Nicholson. One factory was located in Umtali to manufacture board and paper using pulpwood from the surrounding mountain forests north of the town, while other raw materials were imported by rail through the port of Beira. Another factory was established in 1942 to produce jams, marmalade and chutney on the owner's farm near Umtali. The farmer already grow the necessary raw materials on his farm. In addition, he was able to draw on produce from the neighbouring farming areas of Cashel, Melsetter and Rusape. In 1947 a distillery was built in Umtali in order to be close to the source of molasses, the chief raw material in distilling, which was obtained from Mozambique. Cement factories were located at Cement Siding a few miles east of Bulawayo on the railway line to Salisbury in 1914 and at Coleen Bawn in the Gwanda district in 1949, because of the presence there of limestone, the principal raw material in cement manufacture. The location of other agro-industries such as tobacco grading and packing warehouses in various centres in Mashonaland, cheese factories at Chipinga in 1935 and abattoirs at Fort Victoria in 1951, was largely influenced by the need to be close to raw material sources.

COSTS OF INDUSTRIAL LAND AS A LOCATIONAL FACTOR

There was no shortage of land for industrial purposes in any of the municipal areas in Rhodesia. However, the cost of such land varied widely from one centre to the other, with generally higher prices being asked for in the larger towns than in the smaller ones. But in spite of the higher costs for land in the two main towns, industrial growth was more rapid in them than in those places where land was cheaper. In Salisbury during the late 1940's the cost of industrial land varied from £600 per acre upwards. In Bulawayo it varied between £500 and £1 000 per acre. In Umtali on the other hand, land was priced at approximately £300 per acre and in Que Que it cost up to a maximum of £500 per acre. In Gwelo the price of industrial land was fixed at £200 per acre for heavy industries and at £400 per acre for light industries. Of the two large municipalities, the Bulawayo City Council tended to be more sympathetic towards industry and was willing to sell industrial land at reduced cost for enterprises which it considered would benefit the town by creating more employment. The Salisbury City Council on the other hand was less sympathetic and generally insisted on selling land at market prices.

In the smaller towns, with little else to attract industry, low cost land was their main asset such that they frequently sold it at extremely low prices. Thus one of the first industries to be located in Marandellas was a tea and

coffee blending factory which was established in 1950. Three possible locations had been considered by the owners, Umtali, Salisbury and at Marandellas. Umtali had an advantage with respect to the importation of raw materials from Kenya, Uganda, Brazil and Nyasaland (Malawi) through Beira, while Salisbury had the advantage of a large market. But the critical factor in the final decision to locate the factory at Marandellas was the fact that the local Town Management Board offered extremely low cost land, at £80 per acre.

It therefore seems that the cost of the industrial land was in general a minor consideration in the location and distribution of manufacturing industry in Rhodesia. Otherwise, more industries would have been located away from Salisury and Bulawayo to the smaller towns where land was less expensive. Even for those industries that were established in the small towns, the location decision was made with a view on accessibility from that place to the main markets for their products. For instance, Marandellas was close to the Salisbury market, while Gwelo and Que Que were centrally situated to serve both Salisbury and Bulawayo as well as the export markets of Northern Rhodesia and the Belgian Congo.

OTHER LOCATIONAL FACTORS

From the end of the war in 1945 there was a growing awareness of the importance of the Central African market as a whole for manufactured goods. Firms, including subsidiaries of foreign companies, now sought to serve the whole region from a central location. The need for such centrality was an important factor in the location of several industries in the Midlands towns, particularly Gwelo and Que Que. From these towns, the industries would be able to serve Salisbury in the east, Bulawayo to the west, as well as exporting to South Africa, Northern Rhodesia and the Belgian Congo. They could also import some of their raw materials from and through South Africa, and the local iron and steel works at Redcliff were close-by. Considerations of centrality were important in the location of one firm in Gwelo in 1949 to manufacture concrete-reinforced steel products. Several years later, similar arguments were given in favour of Gwelo as the site for the first glass factory in Rhodesia and the Federation by a subsidiary of a South African firm. According to one of the directors of the parent company.

> 'Four main factors were involved: ease of transport to various parts of the Federation; rail transport from the coast for the supply of soda ash imported from Lake Magadi in Kenya; close proximity to sand and limestone deposits; and good social amenities, without which senior staff cannot be secured or retained' (Rhodesian Recorder', Vol. 8, No. 3, 1957).

These requirements were best met by locating the factory at Gwelo which was centrally situated with respect to markets, had the required materials nearby, and was on the railway line from the port of Beira.

Apart from having large populations, the two main towns also had developed larger and cheaper public utility facilities much earlier than the smaller centres. For instance, from 1930 Salisbury had a total storage capacity of approximately 700 million gallons of water in the Cleveland Dam and the recently completed Prince Edward Dam. From 1932, Bulawayo had a storage capacity of 1 250 million gallons in the Khami Dam and by 1943 it had been

increased to 5 000 million gallons with the completion of the N'cema Dam. The first municipal reservoir in Gwelo was not completed until 1934 with a storage capacity of 340 million gallons. Before then the town was dependent on boreholes for its water supply. The supply in the Ngamo Dam was not augmented until 1950 when the Whitewaters Dam was completed with a capacity of 1 150 million gallons.

Until 1936 when the Electricity Supply Commission was set up by Act of Parliament, local authorities were also responsible for the provision of electricity in their municipal areas. But the plants installed in Gwelo and Umtali were much smaller than those in Bulawayo and Salisbury. The first municipal power station in Umtali was built in 1922 with a capacity of 100 KW. It was so small that it was used only for lighting purposes between sunset and sunrise until 1930 when it was expanded to 2 000 KW capacity. It used local firewood because the cost of transporting coal from Wankie was too high. By 1938, Salisbury had an installed plant capacity of 13 500 KW at its power station. As a result of the limited sizes of their public utilities, costs of both electricity and water in the smaller towns were higher than those in the two larger centres.

After 1945, all the municipalities generally wished to attract industries. They attempted to encourage them by offering electricity and water at reduced rates for industrial purposes, especially to those industries they thought would benefit the town by creating more employment opportunities. But the reduced rates varied from place to place and were on the whole lower and therefore more attractive in Salisbury and Bulawayo than elsewhere. The municipalities also offered sites with railway sidings for heavy industries that required them. Such facilities were more readily available in Salisbury and Bulawayo than in the smaller centres because of the high capital costs required to provide them.

Another factor that can be significant in the location decision of many industries is the need to establish linkages with other established firms in the area or town. According to D. M. Smith (1971), small firms generally have more to gain from a location in a large industrial area than have large firms since the latter can create internal economies of scale which the former, by virtue of their size, can only gain externally. In Rhodesia, it was therefore advantageous for new industries, most of which were small scale, to locate in either Salisbury or Bulawayo. This had the effect of reinforcing the growth potential of these two towns at the expense of the smaller places. Hence a parliamentary Select Committee on industrial development noted in 1959 that the lack of engineering and allied industries in the smaller centres was a major difficulty that was experienced by industry there and was contributing to their slow growth.

The Select Committee also found that the smaller urban centres were regarded by prospective industrialists as less attractive because they did not have adequate social and recreational amenities as did the two main towns. Industrialists feared that location in any one of the smaller centres would lead to discontent and shortages of white labour. The Committee also found that industrialists feared that since the smaller towns did not have a strong financial base, there might be a shortage of housing so that they would be compelled to provide houses for their employees. Whether or not such fears were justified was immaterial, but they would certainly influence the location decisions of many industrialists.

CONCLUSION

It therefore seems that the chief factors in the location of manufacturing activity in the early stages of industrialization in Rhodesia were access to markets or to raw material supplies, particularly the former. These factors have been extremely important in determining the present-day distribution of industry, whereby the vast majority of manufacturing is found in Salisbury and Bulawayo. It is hoped that this paper has succeeded in explaining and providing a background to the spatial patterns of industry in Rhodesia today. It is also significant to point out that the nature of industrial location in Rhodesia conforms to the experience of other developing countries in Africa. For instance, Sokolski (1965), writing on Nigeria, concluded that the location of manufacturing industry was

> '*primarily* determined either by the (anticipated) existence of a nearby domestic market of sufficient size to consume the plant's production, or by the pull of raw materials to a particular geographical site' (p.230).

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