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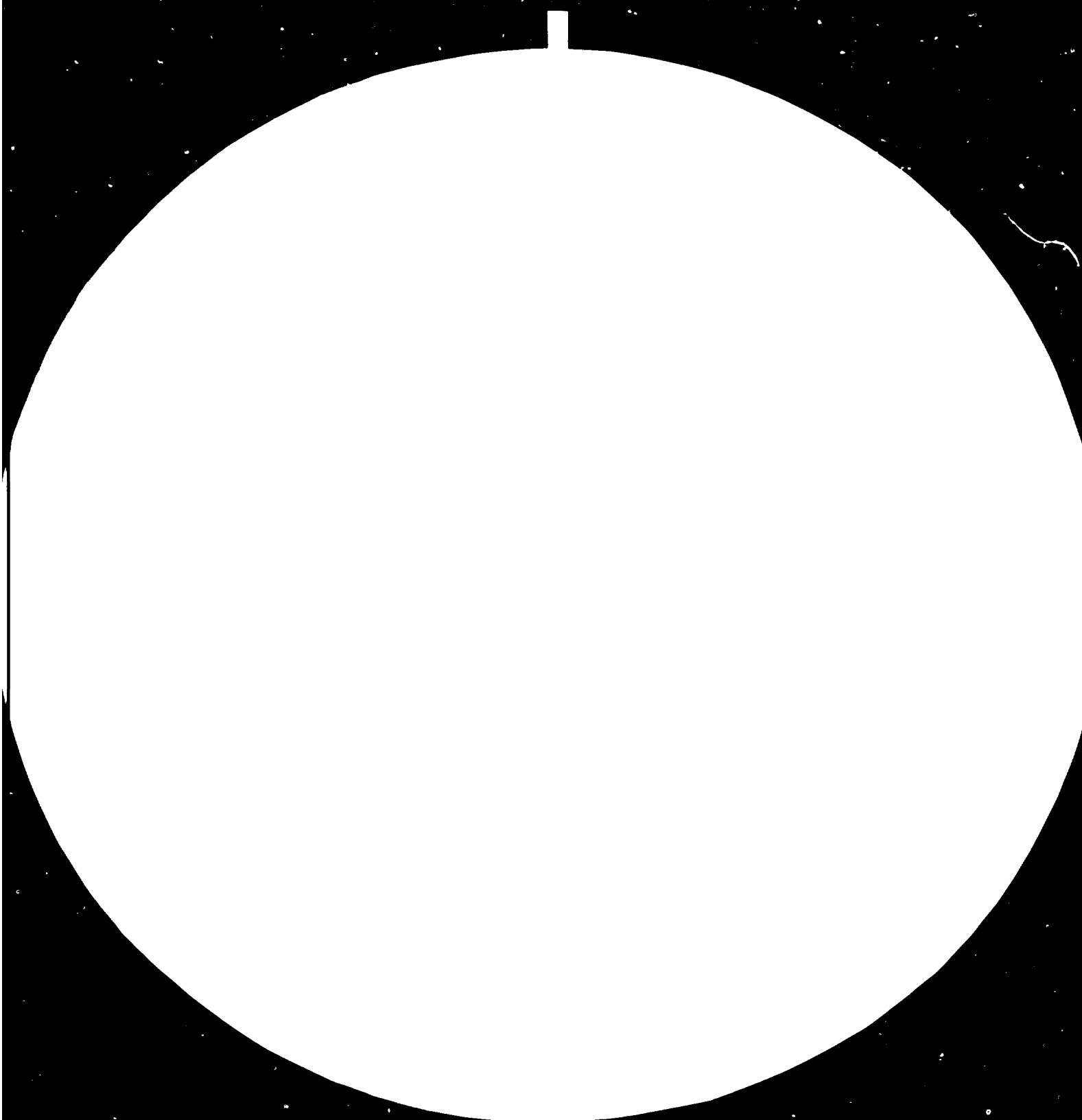

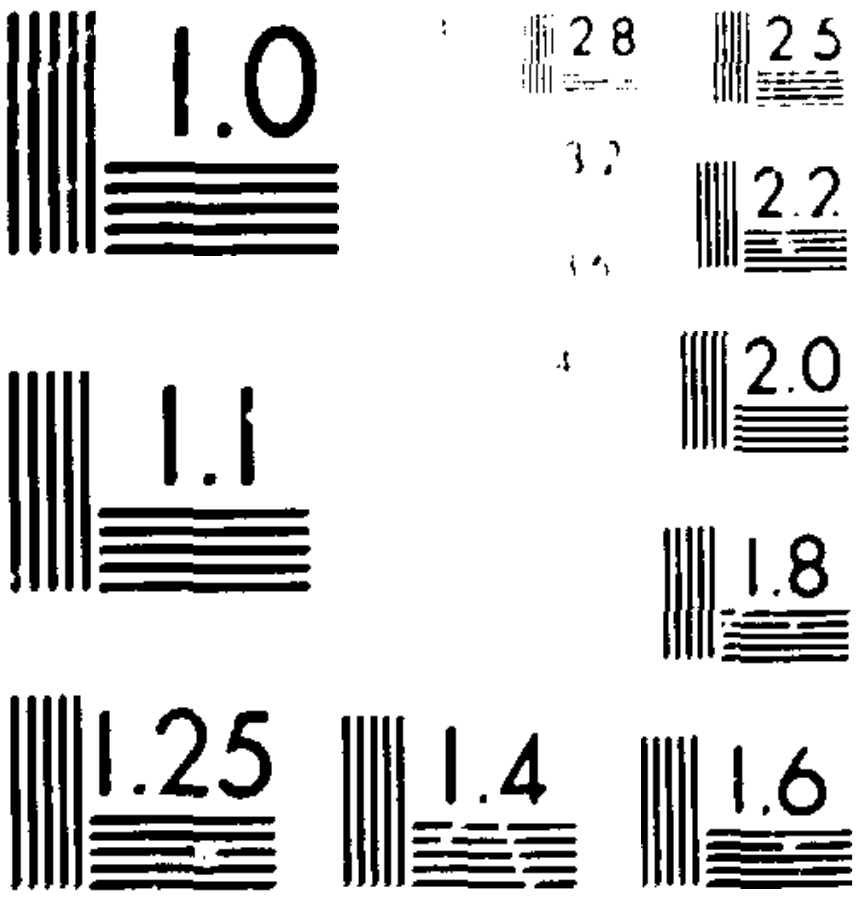

11208

Distr.
LIMITED

UNIDO/IS.277
11 January 1982

UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

ENGLISH

INDUSTRIAL DEVELOPMENT IN ZIMBABWE

Country Brief*

prepared by

Regional and Country Studies Branch
Division for Industrial Studies

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V.82-20353

PREFACE

The Division for Industrial Studies, Regional and Country Studies Branch, undertakes within its work programme the preparation of Country Industrial Development Briefs. These briefs are desk studies, providing statistical and economic analysis of the manufacturing sector, its recent growth, present status and future prospects. It is hoped that the briefs will provide information which will be useful particularly in programming technical assistance and in industrial redeployment and investment activities.

The views or comments contained in this document do not necessarily reflect those of the Government of Zimbabwe, nor do they commit the United Nations Industrial Development Organization to any particular course of action.

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EXPLANATORY NOTE

Values are expressed in this brief in current or constant US dollar (US$) or current Zimbabwe dollars (Z$), as appropriate. The exchange rate of Z$ to US$ was 0.7194 as of late September 1981. Different sources of information have been used, and therefore inconsistencies between tables may occur. For example, manufacturing value added reported in national accounts statistics varies from that reported in industrial statistics due to difference in definition. Several different sets of data on trade exist, and national accounts data shown (FDA basis) differ from those supplied by the United Nations Office of Development Research and Policy Analysis.

The period covered is mainly 1970-80. Data covering the period of the 1960s is provided in a previous UNIDO study, "Southern Rhodesia (Zimbabwe): Statistical Review of Industrial Development, 1960-75" (see "Further reading"). All growth rates are given on a per annum basis, and those for several years are calculated on an unweighted arithmetic average basis (equal weights for each year) except where noted otherwise.

1. GENERAL ECONOMIC BACKGROUND [1]

Attracted by gold and other national resources, Europeans (mainly of British origin) started settling Zimbabwe in the late 19th. century, moving north from South Africa. The country was ruled by the British South Africa Company until 1923, when it became the British colony (self-governing in most respects) of Southern Rhodesia. The colony was merged from 1953 to 1963 with Northern Rhodesia and Nyasaland (now Zambia and Malawi) to become the Federation of Rhodesia and Nyasaland. Following the break-up of the Federation, a dispute concerning conditions for independence between the minority White controlled administration (the Rhodesian Front) of Rhodesia (as it came to be known) and the British Government (the former commited to racial segregation, the latter to majority rule) led to a unilateral declaration of independence (UDI) in 1965. UDI was accepted neither by the world community nor by the Black majority of Rhodesia, represented by the Zimbabwe African People's Union (ZAPU) and the Zimbabwe African National Union (ZANU). Economic sanctions, only partly successful, were applied United Nations, and ZANU and ZAPU (organized as the Patriotic Front and supported by neighbouring Black-controlled governments) took up arm in a guerrilla war. In 1978 an internal settlement, based on power sharing, was reached between the Rhodesian Front and two Black political groups not associated with the Patriotic Front. However, the guerrilla war and economic sanctions continued, and the Rhodesian administration was faced with an increasingly difficult military, political and economic situation. Settlement (the Lancaster House Agreement) was finally reached late in 1979 with the Patrictic Front and the British Government. The right to hold "free-and-fair" elections and the creation of a new constitution, allowing for minority rights were agreed. The elections resulted in a majority for ZANU-PF, headed by Robert Mugabe, and on April 18, 1980 Zimbabwe gained internationally-recognized independence with

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[1] Further information may be obtained from references listed under "Further reading", at the end of this report.

Mr. Mugabe as Prime Minister and head of a coalition of ZANU-PF and the Patriotic Front. Economic sanctions were lifted.

Zimbabwe is a land-locked country of 390,580 km^2 surrounded by Mozambique on the east, Zambia on the north, Botswana and Namibia (Caprivi strip) on the west and South Africa on the south. Population as of 1980 was 7.36 million (19 per km^2), of which about 223,000 (3 per cent) were European and 37,000 (0.5 per cent) were Asians and others. Salisbury, the capital, and Bulawayo are the main cities (accounting for 8.8 and 5.1 per cent of population).

Before independence Zimbabwe relied largely on South Africa for trade and transportation links to the rest of the world. Since then Zimbabwe has attempted to reduce its dependence on South Africa while maintaining good relations. Railway links to the sea through Mozambique are being improved and Zimbabwe has joined the Southern African Development Co-ordination Conference (SADCC), consisting of 9 member states,[1] and the ACP-EEC group.

Zimbabwe is fortunate in having an abundant supply of mineral resources (except oil) and relatively well developed commercial, agricultural and industrial sectors. Until independence, the technical, managerial and entrepreneurial skills which have been the basis for the country's relatively advanced state of development were provided largely by the European minority. One of the most important and difficult problems facing the new regime is that of retaining these skills while improving the economic conditions and increasing the skills of the Black majority.

An overview of the economy is presented in Tables 1, 2 and 3. Population grew at an average annual rate of 3.34 per cent between 1970 and 1980, somewhat faster than the average for developing Africa (2.89 per cent), so that Zimbabwe's share in the total population of developing Africa rose from 1.61 per cent in 1970 to 1.67 per cent in 1980 (Table 1). Growth of the labour force during the period averaged 3.61 per cent, which was below population growth but higher than labour force growth of developing Africa (2.34 per cent).

1/ Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, U.R. Tanzania, Zambia and Zimbabwe.

Table 1. Main economic indicators: absolute figures, 1970, 1975 and 1980; comparisons with developing Africa; and real growth rates

Period	Population	Labour force	GDP (at market prices)	Gross capital formation	Exports	Imports	GDP per capita
	(millions)		(million current US dollars)				(1970 U.S.$)
1970	5.31	1.87	1467	311	456	441	276
1975	6.25	2.13	2689	798	807	879	328
1980	7.36	2.42	5057	727	1391	1626	267
	Zimbabwe share in total for developing Africa (in per cent)						Ratio Zimbabwe/ developing Africa
1970	1.61	1.44	2.31	2.82	2.97	2.92	1.44
1975	1.65	1.47	1.77	1.99	1.89	1.76	1.55
1980	1.67	1.48	1.35	0.77	1.29	1.73	1.11
	Real growth rates, Zimbabwe (in per cent) a/						
1970-71	3.37	2.72	14.89	12.61	7.98	12.06	11.23
1971-72	3.30	2.60	9.63	0.0	18.47	2.83	6.19
1972-73	3.28	2.53	3.03	30.40	3.60	9.09	- 0.31
1973-74	3.28	2.52	9.34	27.61	-4.40	4.04	5.85
1974-75	3.32	2.55	-1.41	- 8.89	-6.54	- 4.85	- 4.65
1975-76	3.39	2.63	-1.43	-29.55	4.92	-27.04	- 4.57
1976-77	3.42	2.61	-7.40	-10.49	-7.65	- 8.04	-10.54
1977-78	3.46	2.63	-3.14	-25.11	6.42	- 9.13	- 6.07
1978-79	3.33	2.63	0.39	-21.23	-1.01	0.0	- 3.04
1979-80	3.08	2.63	7.99	9.93	1.78	37.66	4.71
1970-75	3.31	2.58	7.10	12.35	3.82	4.63	3.66
1975-80	3.34	2.63	-0.72	-15.29	0.89	- 1.31	- 3.90
1970-80	3.32	2.61	3.19	- 1.47	2.36	1.66	- 0.24
	Real growth rates, developing Africa (in per cent) a/						
1970-75	2.79	2.27	4.86	13.27	0.56	9.14	1.99
1975-80	3.00	2.41	5.73	6.03	4.02	3.08	2.62
1970-80	2.89	2.34	5.29	9.65	2.29	6.11	2.31

a/ All rates based on values derived from data in 1970 U.S. dollars, with multiple year rates calculated on an unweighted (arithmetic) average basis (equal weighting for each year).

Source: ECA computer printouts with calculations by the UNIDO Secretariat, except: 1960-78 population and labour force data from UNIDO data base, information supplied by the United Nations Office of Development Research and Policy Analysis; 1979-80 labour force growth rates assumed equal to 1978 growth rate; 1979-80 population growth rate derived from Population and Vital Statistics Report, United Nations, ST/ESA/STAT/SER.A/132 (1980) and/137 (1981).

GDP at market prices grew, in real terms (1970 prices) at an average rate of 3.19 per cent from 1970 to 1980, as compared with a rate of 5.29 per cent for developing Africa, but Negative GDP growth, reflecting the guerrilla war and sanctions, as well as less favourable international terms of trade, was recorded during 1975-78. Recovery occured in 1980 (7.99 per cent growth), but various difficulties (discussed in section 2) will probably result in a reduction in real GDP growth in 1981 to about 4 per cent.[1] The share of Zimbabwe in total GDP of developing Africa dropped from 2.31 per cent in 1970 to 1.35 per cent in 1980. Average growth of GDP per capita over the period was -0.24 per cent, as compared to a growth rate of 2.31 per cent for developing Africa. GDP per capita in Zimbabwe was 44 per cent higher than the average for developing Africa in 1970, 55 per cent higher in 1975, but only 11 per cent higher in 1980.

Gross capital formation in constant prices declined sharply during 1975-1979, and declined on average by 1.47 per cent during 1970-80, as compared to an increase of 9.65 per cent for developing Africa. Zimbabwe's share in total gross capital formation of developing Africa declined from 2.82 per cent in 1970 to 0.77 per cent in 1980.

Exports grew in constant prices at an average rate of 2.36 per cent during 1970-80, whereas imports grew at an average rate of 1.66 per cent, but imports exceeded exports in 1980 largely due to a 37.66 per cent import increase in that year. Zimbabwe's share in total exports of developing Africa dropped from 2.97 per cent in 1970 to 1.29 per cent in 1980, and its import share dropped less sharply from 2.92 per cent to 1.73 per cent. Zimbabwe's imports are expected to continue to grow rapidly during 1981-83, helped by pledged foreign aid amounting to US$2,000 million, but export growth will depend on fluctuations in world commodity prices and internal factors (see section 2).

The share of government final consumption expenditure in GDP rose from 12.0 per cent in 1970 to 20.2 per cent in 1980 and private final consumption expenditure rose from 65.7 per cent to 70.0 per cent, whereas the share of gross capital formation declined from 21.2 per cent to 14.4

1/ Report on Zimbabwe in Standard Bank Review, February, 1981.

per cent (in developing Africa the capital formation share rose from 17.4 per cent in 1970 to 25.3 per cent in 1980). (Table 2). Real gross capital formation per worker rose from US$165 in 1970 to US$249 in 1975, but declined sharply to US$190 in 1980, whereas the figure for developing Africa rose from US$85 in 1970 to US$167 in 1980. The labour force/population ratio fell from 35.2 per cent in 1970 to 32.9 per cent in 1980, in line with a decline for developing Africa from 39.2 per cent to 37.1 per cent.

The share of exports in GDP dropped from 31.1 per cent in 1970 to 27.5 per cent in 1980, whereas for developing Africa the export share rose from 24.3 per cent to 28.9 per cent. The share of net exports (exports minus imports) in GDP fell from 1.0 per cent (surplus) in 1970 to -4.6 per cent (deficit) in 1980, and the export-trade ratio [1] declined from 50.9 per cent in 1970 to 46.1 per cent in 1980. For developing Africa the export-trade ratio declined from 50.5 per cent in 1970 to 46.0 per cent in 1975, but rose to 53.5 per cent in 1980. Exports per capita declined in real terms from US$86 in 1970 to US$ 76 in 1980 (for developing Africa the decline was from US$47 in 1970 to US$43 in 1980).

Table 3 shows the distribution of GDP by economic sector and the ratio of sector shares for Zimbabwe to those for developing Africa, 1970, 1975 and 1980, as well as real rates of sector growth for Zimbabwe and developing Africa. The shares of agriculture, manufacturing, contruction and public administration and defense rose from 1970 to 1975 while the share of other sectors declined. From 1975 to 1980 the shares of mining, commerce and public administration and defense rose, with the largest increase recorded in the last sector (from 10.72 per cent to 15.85 per cent). The shares in Zimbabwe's GDP of manufacturing and utilities especially, but also transport and communications and public administration and defense, were considerably higher in 1980 than those for developing Africa, whereas the shares of agriculture, mining and construction were well below the average for developing Africa. In comparison to 1970 the ratio of Zimbabwe/developing Africa shares in GDP rose considerably in 1980 in manufacturing, utilities and public administration and defense and declined considerably in mining and construction.

1/ Exports (exports plus imports).

Table 2. Selected comparative indicators, 1970, 1975, 1980, Zimbabwe and Developing Africa a/

	Year		
	1970	1975	1980
Distribution of GDP by expenditure (per cent) b/			
- Government final consumption expenditure	12.0 (14.6)	12.6 (16.2)	20.2 (15.2)
- Private final consumption expenditure	65.7 (67.5)	60.4 (62.4)	70.0 (55.7)
- Gross capital formation	21.2 (17.4)	29.7 (26.3)	14.4 (25.3)
- Net exports	1.0 (0.4)	- 2.6 (-4.9)	- 4.6 (3.8)
Share, exports of goods and services in GDP (per cent)	31.1 (24.2)	30.0 (28.0)	27.5 (28.9)
Share, exports in total trade (per cent)	50.9 (50.5)	47.9 (46.0)	46.1 (53.5)
Exports per capita (1970 US$)	86 (47)	86 (42)	76 (43)
Gross capital formation per worker (1970 US$)	166 (85)	249 (141)	90 (167)
Labour force as per cent of total population	35.2 (39.2)	34.1 (38.2)	32.9 (37.1)

a/ Data for developing Africa shown in brackets. Based on current US$ prices except for exports per capita and gross capital formation per worker.

b/ The sum of the parts may not equal 100 because of rounding.

Source: ECA computer printouts with calculations by the UNIDO Secretariat, except population and labour force data as noted in Table 1.

Table 3. GDP by sector of origin, 1970, 1975 and 1980; comparisons with developing Africa; and real growth rates

Period	Agriculture, forestry, hunting, fishing	Mining, quarrying	Manufacturing	Electricity, gas, water	Construction	Commerce	Transport, communications	Public administration, defense	Other services	GDP (at factor cost)
	Shares in GDP (in per cent) a/									Value (in current US$ millions)
1970	15.60	7.24	21.30	3.26	5.61	22.53	8.97	10.50	7.14	1,373.37
1975	16.56	6.75	24.28	2.95	6.06	20.85	8.52	10.72	6.11	2,549.53
1980	13.54	8.56	23.80	2.90	3.95	20.99	7.64	15.85	5.46	4,735.43
	Ratio, Zimbabwe sector shares in GDP/Developing Africa sector shares in GDP									
1970	0.47	0.74	2.24	2.76	1.07	1.12	1.73	1.16	1.07	1.00
1975	0.61	0.42	2.57	3.04	0.82	1.08	1.65	1.15	1.13	1.00
1980	0.55	0.40	3.12	3.49	0.48	1.10	1.61	1.62	1.37	1.00
	Real growth rates, Zimbabwe (in per cent) b/									
1970-71	26.79	22.54	3.35	0.0	- 3.64	5.43	13.64	-33.01	104.29	12.64
1971-72	13.92	5.75	14.82	6.25	22.64	11.16	8.00	7.25	- 4.90	9.41
1972-73	-10.86	-14.13	8.06	20.59	- 1.54	2.70	2.78	14.86	19.85	2.90
1973-74	37.06	11.39	7.46	-19.51	-10.94	17.67	6.31	10.59	-19.02	9.08
1974-75	- 6.67	35.23	-1.04	3.03	1.75	- 7.03	5.08	8.51	-17.42	-1.69
1975-76	7.14	- 3.36	-5.97	- 9.88	1.72	- 0.69	-1.61	1.96	-11.93	-2.02
1976-77	- 4.44	2.61	-5.22	-29.03	-13.56	-16.61	-2.46	- 5.77	3.13	-7.12
1977-78	-25.58	15.18	-1.18	13.64	-43.14	1.66	-8.40	39.80	- 1.01	-3.13
1978-79	-11.46	1.55	8.77	8.00	31.03	-10.20	-1.83	7 30	8.16	0.34
1979-80	7.05	0.76	8.79	7.41	7.89	7.73	12.15	15.65	1.89	7.97
1970-75	12.05	12.16	6.53	2.07	1.65	5.99	7.16	1.64	16.56	6.47
1975-80	- 5.46	2.30	1.04	- 1.97	- 3.21	- 3.62	-0.43	11.79	0.05	-0.79
1970-80	3.30	7.23	3.78	.05	- 0.78	1.18	3.37	6.71	8.30	2.84
	Real growth rates, developing Africa (in per cent) b/									
1970-75	1.39	- 1.69	6.11	6.33	13.20	6.13	9.32	10.62	4.88	4.87
1975-80	1.21	4.45	4.97	6.94	9.78	5.62	7.38	11.93	4.81	5.59
1970-80	1.30	1.38	5.54	6.64	11.49	5.88	8.35	11.28	4.84	5.23

a/ Based on data in current US$. The sum of the shares is greater than 100 per cent because the data include implicit bank charges, which are deducted from GDP at factor cost.

b/ All rates based on values derived from data in 1970 U.S. dollars, with multiple year rates calculated on an unweighted average basis.

Source: ECA computer printouts, with calculations by the UNIDO Secretariat.

Manufacturing, which accounted in 1980 for nearly 24 per cent of GDP, grew on average by 3.78 per cent in real terms during 1970-80, as compared to average growth of GDP (at factor cost) of 2.84 per cent, although declines in manufacturing value added (MVA) occured during 1975-78. Real MVA in developing Africa grew at an average rate of 5.54 per cent during 1970-80, slightly more than the growth rate of GDP (5.23 per cent). Other services (at 8.30 per cent), mining (at 7.23 per cent), public administration and defense (at 6.71 per cent), transport and communications (at 3.37 per cent) and agriculture (at 3.30 per cent) also grew on average more rapidly than GDP in Zimbabwe during 1970-80, whereas growth rates for commerce, utilities and construction averaged 1.18, 0.5 and -0.78 per cent respectively.

II. MAIN FACTORS AND POLICIES AFFECTING MANUFACTURING PRODUCTION AND TRADE

At the time of UDI, in 1965, Zimbabwe had one of the most highly developed industrial sectors in developing Africa, and this situation continued during the late 1960s and early 1970s. Much of this lead was lost during the period 1975-78, however, and reconstruction of the economy is only just begining.

Manufacturing in Zimbabwe is predominantly based on exploitation of rich agricultural and mineral resources by private enterprises possessing technical and managerial skills and capital resources well above the average for developing Africa and supported by a well-developed infrastructure base. The supply situation for each of these factors is briefly examined below. [1]

Products based on agriculture and forestry accounted for half of MVA in 1979. [2] Until independence commercial agricultural output had been almost entirely in the hands of a relatively small number of European farmers using modern techniques (machinery, fertilizers, etc.). Prices paid to farmers were generally below market prices, but wages of hired labour were also low. Tobacco was the principal cash crop, although beef, cotton and maize were also important. About half the agricultural land was held in tribal trust, but output in these areas was low (mostly subsistance level).

This structure is now changing. A main government objective is to increase agricultural output, especially in the Tribal Trust Lands, and to increase incomes of Black farmers. To this end prices paid to farmers for most products and minimal wage levels for farm labourers have been raised considerably (corresponding more closely with world prices). [3] Land abandoned by European farmers during the guerrilla war is being distributed to black farmers. With the decline in world prices for tobacco, land use is being shifted from tobacco growing to other crops, especially maize, for which record 1981 output is predicted. Substantial exports of

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1/ For more detail see references listed at the end of this report.

2/ Food products, beverages, tobacco products, textiles and wearing apparel, wood products, paper, printing and publishing .

3/ A further increase of 66 per cent in the minimum wage for farm labourers for 1982 has recently been announced.

maize and wheat to other African countries, as well as additional inputs to Zimbabwe's processing industries (except tobacco), seem feasible over the next few years provided that output levels of European farmers, whose production decisions will depend largely on relative changes in product prices and wage costs and on their feelings of security, can be maintained.

Mining, largely in the hands of transnational corporations, accounts for a large proportion of Zimbabwe's exports and provides the main raw materials for its basic metals, metal-working and engineering industries (which accounted for more than 30 per cent of MVA in 1979). The country's mineral resources are rich and provide a good basis for the development of mineral processing industries. Gold, asbestos, nickel, copper and coal were the main products by value in 1979. New investments in production of all these minerals are underway, and further reserves are expected to be discoverd within the next few years. Thus prospects are good, although partly dependent on government policy on investments by the transnationals and fluctuations in world prices.

One of the most important issues facing the government is the need to maintain the skills and capital of white workers and entrepreneurs while developing the potential of black workers and entrepreneurs and creating opportunities for their greater participation in the economy. This will not be an easy task, but is one which is essential for future development. So far government policy in this respect has been relatively successful.

Zimbabwe's infrastructure is well developed, but additional investment is required to compensate for low investment levels during the period of internal disturbance. Improvement of the railway system is particularly important. Because of a deterioration of political relationships with South Africa, the rail link with that country can no longer be considered as secure. The rail connection with Mozambique is therefore in the process of being improved.

Prospects for the manufacturing sector will depend on general economic, social and political policies, as well as on specific industrial policies. In formulating the former set of policies particular attention will need to be given to the following basic requirements for success:

- maintenance of internal peace, i.e., continuing acceptable relationships between the racial and tribal groups, control of armed groups, resettlement of those dislocated during the guerrilla war and reduction of unemployment (which is reported [1] to be running at as much as 40 per cent).
- reduction of the outflow of Whites;
- tighter economic administration, especially control of imports, inflation, the government deficit and the money supply, all of which have been increasing sharply since 1980;
- maintenance of confidence by private foreign investors and aid donors;
- maintenance of economic links with South Africa while expanding ties with other Southern African countries, especially the SADCC group;
- sustained growth of the agricultural, mining, transport, energy and construction sectors.
- although largely beyond national policy control, economic success will also depend in part on stability in the country's international terms of trade.

Industrial policy will need to aim in particular at the following:

- replacement of obsolete and worn-out machinery;
- training of new skilled labour and managers;
- strengthening of small-scale industry;
- elimination of uncompetitive industries promoted within the protected market of the UDI period;
- provision of larger amounts of foreign exchange for industry to allow increased purchases of imported inputs (reduction or elimination of import quotas would help considerably to alleviate the serious bottleneck existing at present in this respect, especially as it affects availability of spare parts and materials consumed in the production process).

1/ The Economist, 8 November 1980.

III. DEVELOPMENT AND STRUCTURAL CHANGE IN MANUFACTURING PRODUCTION

In this sector an analysis of various key indicators related to manufacturing in Zimbabwe is presented. The focus is on the period 1970-80.

Real MVA per capita (in 1970 prices) rose steadily from US$55.10 in 1970 to US$66.64 in 1974, declined thereafter to US$50.85 in 1978, and rose to US$56.49 in 1980 (Table 4). The average annual increase during 1970-80 was only 0.05 per cent. MVA per capita in Zimbabwe was 3.37 times greater than the average for developing Africa in 1970 and 3.51 times greater in 1974, but was only 2.53 times greater in 1978 and 2.68 times greater in 1980. Zimbabwe's share in MVA of developing Africa (in current prices) rose to 5.90 per cent in 1972, but by 1978 its share had declined to 3.05 per cent (4.37 per cent in 1980).

Food, beverages and tobacco products accounted for 18.2 per cent of Zimbabwe's MVA in 1975; textiles, wearing apparel and leather products accounted for 16.9 per cent; wood products, paper and printing and publishing for 10.0 per cent; chemicals and related products for 14.1 per cent; iron and steel for 13.5 per cent and fabricated metal products, including machinery and transport equipment, for 19.8 per cent (Table 5).[1] The Zimbabwe shares of iron and steel, non-electrical machinery and non-industrial chemicals were at least twice the developing Africa average for these branches (4.91 times as great for iron and steel), but the shares for food products, non-footwear leather products, misc. petroleum products and earthenware products were all less than half the average for developing Africa. Zimbabwe accounted for 30.1 per cent of developing Africa's iron and steel production, and also accounted for more than 10 per cent of Africa's production of wearing apparel (excluding footwear), industrial chemicals, plastic products, fabricated metal products (excluding machinery and equipment), non-electrical machinery and professional and scientific equipment.

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1 MVA-related data shown here and in following tables are based on industrial statistics, rather than national accounts, as in previous tables. The two data sets are not strictly comparable.

Table 4. Real manufacturing value added per capita and its rate of growth, Zimbabwe, ratio of Zimbabwe MVA per capita to developing Africa MVA per capita and share of Zimbabwe in MVA of developing Africa, 1970-80

Period	Real MVA per capita (1970 US$)	Annual growth rate, real MVA per capita (per cent)[a]	Ratio, Zimbabwe MVA per capita / developing Africa MVA per capita	Share, Zimbabwe, in MVA of developing Africa (per cent)[b]
1970	55.10	-	3.37	5.41
1971	55.08	-0.03	3.26	5.81
1972	61.23	11.17	3.44	5.90
1973	64.14	4.75	3.41	5.48
1974	66.64	3.90	3.51	5.69
1975	63.84	-4.20	3.33	4.68
1976	58.08	-9.02	3.03	3.86
1977	53.23	-8.35	2.74	3.32
1978	50.85	-4.47	2.53	3.05
1979	53.53	5.27	2.56	3.40
1980	56.49	5.53	2.68	4.37

[a] Unweighted annual averages are: 3.12 per cent for 1970-75; -2.21 per cent for 1975-80; 0.05 per cent for 1970-80.

[b] Based on data in current US$.

Source: ECA computer printouts, with calculations by UNIDO Secretariat, except population data from UNIDO data base (information supplied by the United Nations Office of Development Research and Policy Analysis).

Table 5. Distribution of manufacturing value added by branch, Zimbabwe, comparison of distribution in Zimbabwe and developing Africa, Zimbabwe shares in branch value added of developing Africa

ISIC code (with branch description)	Branch shares in MVA (per cent) with value (1975 US$000s) for total	Ratio, Zimbabwe branch shares/developing Africa branch shares a/	Zimbabwe shares in developing Africa branch value added (per cent) a/
311/312 (food products)	9.2	.44	2.7
313(beverages)	5.9	.91	5.6
314(tobacco products)	3.1	.77	4.7
321(textiles)	8.7	.58	3.6
322(wearing apparel, ex. footwear)	5.8	1.86	11.4
323(leather products, ex. footwear and wearing apparel)	0.2	.25	1.5
324(footwear, ex. rubber or plastic)	2.2	1.34	8.2
331(wood products, ex. furniture)	1.5	.52	3.2
332(furniture, ex. metal)	1.8	1.40	8.6
341(paper and products)	2.7	1.15	7.1
342(printing and publishing)	4.0	1.56	9.6
351(industrial chemicals)	4.9	2.01	12.3
352(other chemicals)	5.3	1.03	6.3
353(petroleum refineries)	0	0	0
354(misc. petroleum and coal products)	0.3	.29	1.8
355(rubber products)	1.9	1.25	7.7
356(plastic products n.e.c.)	1.7	1.85	11.4
361(pottery, china, earthenware)	0.1	.28	1.7
362(glass and products)	0	0	0
369(other non-metallic mineral products)	4.5	1.13	6.9
371(iron and steel)	13.5	4.91	30.1
372(non-ferrous metals)	1.4	1.00	6.1
381(fabricated metal products, ex. machinery and equip.)	9.1	1.69	10.4
382(machinery, ex. electrical)	3.8	2.57	15.8
383(machinery, electrical)	2.9	1.25	7.7
384(transport equipment)	4.0	1.19	7.3
385(professional and scientific equipment n.e.c)	0.1	1.67	10.2
390(other manufactured products)	1.2	.93	5.7
Manufacturing value added, total	844,800	1.00	6.1

a/ Some branch and country omissions occur in the data for Africa.

Source: UNIDO data base; information supplied by the UN Statistical Office, with calculations of comparative data by the UNIDO Secretariat.

As shown in Table 6, MVA grew at constant prices at rates ranging from 7.2 to 12.3 per cent during 1971-74, declines were recorded from 1975 to 1978, and recovery occured during 1979 and 1980, with growth rates of 9.6 and 14.8 per cent. Data for the first five months of 1981 (4.1 per cent growth) indicate a slowing down of the growth rate in 2981, but the Government estimates that real average annual growth over the period 1981-84 will be about 11 per cent. The average rate for 1970-80 was 4.3 per cent (7.5 per cent in 1970-75 and 1.1 per cent in 1975-80).

Over the period 1970-80 highest average growth (11.6 per cent) was recorded in ISIC branch 390 (other manufactures), with rates of 6.0 to 6.5 per cent recorded in food, beverage and tobacco products and textiles. Low growth of around 2 per cent was recorded in wearing apparel and footwear, non-metallic mineral products and transport equipment. During 1979 and 1980, the period of economic recovery, high growth rates were recorded in almost all sectors. During 1981-84 highest growth (14 per cent annual average) is expected in food products, lowest (6 per cent) in transport equipment and non-metallic mineral products.

Unlike the trend in many developing countries, MVA tended to grow slightly more rapidly in current prices than gross output over the period 1963-1980, indicating an increase in the share of MVA in gross output (Table 7). MVA increased at an average annual trend rate of 12.2 per cent from 1963 to 1978, and by 20.3 per cent in 1979 and 15.6 per cent in 1980; the comparable figures for gross output were 11.6, 20.5 and 14.2 per cent. Gross fixed capital formation fluctuated widely over the period, from a 36.9 per cent decline in 1976 to a 94.0 per cent increase in 1968. Trend average annual growth over the period 1963-1978 was 13.7 per cent (higher than MVA growth), but calculated on a compound basis growth was only 6.5 per cent. Thus the long term relationship between value added and capital formation can not be easily determined from the data. Wages, on the other hand, show a clear downward trend in proportion to value added. Trend growth in wages averaged 10.9 per cent during 1963-1978 (lower than MVA growth) and 17.8 per cent in 1979. Less than half the increase in the wage bill was due to increased employment. From 1963 to 1978 employment rose on average (trend) by only 4.9 per cent, although the increases in 1979 (7.0 per cent) and 1980 (10.2 per cent) were somewhat higher. [1] Employment actually declined in 1966 and 1976-1978. The number of establishments increased

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1/ Value added per employee increased by the difference between growth in value added and employment.

Table 6. Manufacturing value added in Zimbabwe, by branch - real growth rates, 1970-80, and projected 1980-84 rates

Branch ISIC code a/	Real growth rates (per cent) b/													
	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80c/	1970-75d/	1975-80d/	1970-80d/	1980-84e/
311/312	11.0	7.4	13.8	0.0	1.0	5.0	8.6	- 3.4	10.0	6.1	6.6	5.3	6.0	14
313/314	6.1	11.4	14.1	7.9	4.2	3.0	- 5.7	1.0	4.1	18.9	8.7	4.3	6.5	8
321	11.3	15.2	7.7	5.1	- 2.8	- 8.9	0.0	- 1.0	16.7	16.8	7.3	4.7	6.0	11
322/324	6.9	8.6	0.0	5.0	- 5.6	- 4.9	- 4.1	- 8.7	10.8	18.1	3.0	2.2	2.6	8
323/385	11.1	12.5	4.4	7.4	- 0.9	- 6.9	-	-	-	-	4.6f/	-	-	-
331/332	5.9	7.8	6.2	6.8	- 9.0	- 7.9	-14.0	- 2.4	24.7	25.9	3.5	5.3	4.4	9
341/342	6.3	11.9	4.3	11.2	- 8.2	- 8.9	- 5.4	5.8	8.8	16.7	5.1	3.4	4.2	11
351/252/353	8.5	13.0	0.0	9.2	5.3	-10.9	- 1.0	0.0	2.3	20.5	7.2	2.2	4.7	12
354	5.6	20.0	-17.7	23.0	9.9	- 4.9	-	-	-	-	6.0f/	-	-	-
355	10.5	19.0	- 5.9	- 4.2	11.1	- 6.9	-	-	-	-	3.9f/	-	-	-
356	40.0	21.4	16.5	26.3	-19.9	- 6.9	-	-	-	-	12.9f/	-	-	-
361/362/369	15.5	11.0	8.8	10.1	- 8.2	-12.9	-19.4	-19.9	19.6	16.6	7.4	-3.2	2.1	6
371/372/381/382/383	16.4	14.1	14.8	8.6	- 0.9	- 7.9	-12.9	- 1.2	8.9	11.0	10.6	-0.4	5.1	11
384	15.7	6.2	- 9.7	4.3	4.2	-20.9	- 5.0	-13.2	13.8	23.0	4.1	-0.5	1.8	6
390	1.5	43.9	10.5	2.9	- 7.3	0.0	6.0	0.0	8.5	30.5	10.3	9.0	11.6	11
Manufacturing, total	11.5	12.3	8.0	7.2	- 1.5	- 6.5	-10.0g/	- 2.4	9.6	14.8	7.5	1.1	4.3	11

a/ For branch descriptions see Table 5.

b/ A dash (-) indicates data not available. Except as noted in c/ and e/ all rates are based on values derived from data in 1970 US$.

c/ Based on volume indices provided by the Central Statistical Office, Zimbabwe as reported in UNIDO, ZIM/QR/JPO/81/3. During the first five months of 1981 manufacturing production averaged 4.1 per cent greater than the 1980 average.

d/ Unweighted arithmetic average.

e/ 1980 Z$ basis; rates rounded to nearest per cent. Source: Monthly Digest of Statistics, July 1981 (Zimbabwe government).

f/ 1970-76.

g/ Slight overestimate of rate of decline due to omission of data for 323/385 and 354, 355 and 356 after 1976 (these accounted for 4.2 per cent of value added in current prices in 1980).

Source: Except where indicated, UNIDO data base; information supplied by the U.N. Statistical Office, with estimates and calculations of comparative data by the UNIDO Secretariat.

Table 7. Selected indicators of manufacturing structure - growth rates 1963-80 for total manufacturing - Zimbabwe

Year	Gross output	Value added	Gross fixed capital formation	Wage bill	Employment	Establishments	Value added per employee	Value added per establishment	Share of wages in value added	Share of gross fixed capital formation in value added	Investment-surplus ratio[a/]	Share of value added in gross output
	growth rates (per cent)[b/]											
1963-64	10.0	12.0	-18.8	8.1	1.7	2.3	10.2	9.6	-3.5	-27.6	-30.2	1.9
1964-65	14.7	13.1	-7.0	8.2	3.1	0.1	9.8	13.0	-4.3	-13.9	-16.5	-1.4
1965-66	-5.9	-6.6	10.4	0.9	-0.8	-4.7	-5.8	-2.1	8.2	18.4	17.2	0.3
1966-67	2.7	5.6	14.3	6.9	3.6	1.5	1.9	4.0	1.3	8.2	9.7	2.6
1967-68	11.4	14.6	91.0	9.7	9.2	5.6	5.0	8.5	-4.3	69.3	81.9	2.7
1968-69	19.5	18.0	0.0	13.8	10.5	4.8	6.8	12.6	-3.6	-14.7	-17.5	-1.3
1969-70	17.7	20.8	-5.7	13.8	8.8	3.8	11.0	16.4	-5.8	-22.6	-25.8	2.6
1970-71	14.0	14.5	18.0	9.0	7.0	7.3	7.0	6.7	-4.9	3.6	-0.4	0.4
1971-72	14.5	13.5	10.5	14.3	8.3	3.2	4.8	10.0	0.7	-2.6	-3.2	-0.9
1972-73	15.2	15.2	7.7	13.8	3.9	1.2	10.8	13.7	-1.2	49.3	49.1	0
1973-74	23.8	23.0	40.3	18.5	7.4	1.6	15.6	21.1	-3.7	14.0	11.1	-0.6
1974-75	9.9	10.8	23.6	15.7	2.6	-	8.0	-	4.4	11.6	15.0	0.8
1975-76	2.5	2.5	-30.9	6.5	-3.1	-	5.8	-	3.9	-38.6	-39.9	0
1976-77	1.5	-1.5	-7.8	4.3	-3.8	-	2.4	-	5.9	-36.8	-23.3	-3.0
1977-78	7.3	12.9	-21.3	6.0	-1.7	-	15.0	-	-6.1	-30.3	-31.9	5.4
1978-79	20.5	20.3	11.9	17.8	7.0	-	13.2	-	-2.1	-6.9	-8.0	-0.1
1979-80	14.2	15.6	-	-	10.2	-	5.0	-	-	-	-0.4[c/]	1.2
1963-78(trend)	11.6	12.2	13.7	10.9	4.9	2.8[d/]	7.3	10.3[e/]	-4.0	-4.4	-4.8	0.7
1963-78(compound)	10.2	10.9	6.5	9.9	3.7	2.4[d/]	7.0	10.2[e/]	-1.0	-3.7	-4.8	0.6

a/ Defined as investment (gross fixed capital formation) divided by operating surplus (value added minus wage bill).

b/ A dash (-) indicates data not available. All growth rates based on values in current $.

c/ 1963-74, unweighted average.

d/ 1963-73.

e/ Unweighted average.

Source: for 1963-78 UNIDO data base, information supplied by the UN Secretariat; for 1978-79 derived from Census of Production 1979 '84 - Mining, Manufacturing, Construction, Electricity and Water Supply (Central Statistical Office); for 1979-80 derived from UNIDO, ID/WG.[illegible]/JPO/81/3; estimates and calculation of comparative data by UNIDO Secretariat.

at a trend rate of 2.3 per cent from 1963 to 1974 (the latest year for which data are available), which indicates that only a small proportion of MVA growth can be attributed to additional establishments, the rest being a result of increased MVA per establishment.

Table 8 shows branch shares in gross output, value added, capital formation, wages, employment and number of establishments for 1963, 1970, 1975 and 1979 (1963, 1970 and 1974 for establishments). In 1979 the most important branches in terms of gross output were food products (23.5 per cent of total), miscellaneous manufactures (12.5 per cent), iron and steel and other metals (12.4 per cent) and textiles (11.2 per cent). [1] The shares of iron and steel and other metals and textiles increased considerably over the period, whereas the share of transport equipment declined from 10.7 per cent in 1963 to only 2.7 per cent in 1979.

As in most developing countries, the share of food products in value added, 13.7 per cent in 1979, as well as the shares of beverages and tobacco products, were much smaller than shares of these branches in gross output. Besides food products, more than 10 per cent of value added in 1979, and in 1975 and 1970 was accounted for by iron and steel and other metals, miscellaneous manufactures and fabricated metal products and non-electrical machinery, whereas in 1963 only food products, miscellaneous manufactures and transport equipment accounted for more than 10 per cent of value added (each).

Branch shares in capital formation varied widely from year to year. In 1979 and 1970 food products accounted for the largest share of capital formation (24.5 and 19.1 per cent). Iron and steel and other metals accounted for 35.7 per cent of capital formation in 1975, and miscellaneous manufactures accounted for 46.5 per cent in 1963.

The shares in the wage bill of food products, iron and steel and other metals and miscellaneous manufactures rose from 11.1, 8.0 and 8.8 per cent in 1963 to 14.5, 12.9 and 10.9 per cent in 1979. Fabricated metal products and non-electrical machinery accounted for 12.4 per cent of 1979 wages, down somewhat from 1975.

1/ Footnote c of Table provides a more detailed product breakdown for 1979 than shown in the Table.

Table 8. Gross output, value added, gross fixed capital formation, wage bill, employment and establishments - branch shares in total manufacturing, with total values, Zimbabwe, 1963, 1970, 1975 and 1979 a

Branch (ISIC code b)	Gross output				Value added				Gross fixed capital formation				Wage bill				Employment				Establishments		
	1963	1970	1975	1979	1963	1970	1975	1979c	1963	1970	1975	1979	196	1970	1975	1979	1963	1970	1975	1979	1963	1970	1974
	Branch shares in total (per cent) d																						
311/312	24.3	22.6	19.7	23.5	13.4	12.2	10.3	13.7	11.7	19.1	14.7	24.5	11.1	12.0	11.7	14.5	13.6	13.9	13.8	15.4	12.3	12.9	10.6
313	3.8	4.3	4.9	4.7	5.[illegible]	[illegible]	7.0	6.7	4.8	6.7	7.4	9.2	3.6	3.9	4.8	5.1	2.9	3.1	4.5	4.2	3.1	3.2	2.6
314	4.7	2.6	2.1	2.7	7.1	3.8	3.1	4.0	10.7	1.5	1.1	2.3	7.9	3.8	3.2	3.5	9.2	3.5	3.3	3.5	1.3	1.1	1.0
321	6.6	8.3	10.4	11.2	6.4	7.1	7.7	9.4	3.1	11.8	14.1	6.3	5.8	7.0	6.9	7.8	9.3	9.7	9.8	10.8	4.2	4.2	4.0
322+(323 +324)	7.0	7.0	6.7	6.0	7.1	7.5	8.0	6.9	2.7	4.7	3.4	3.4	7.3	9.1	8.6	7.8	11.7	13.1	12.3	11.5	11.1	11.4	10.7
331	1.9	[illegible]	1.3	1.8	[illegible]	[illegible]	1.5	[illegible]	0.6	3.7	0.9	2.3	2.3	2.6	1.7	2.6	5.1	5.0	2.9	5.6	4.4	4.3	4.0
332	1.8	1.6	1.5	1.4	[illegible]	[illegible]	1.8	1.4	0.3	4.4	0.5	1.7	2.2	2.4	2.4	2.0	3.0	3.9	3.4	3.0	5.8	4.[illegible]	4.3
341	2.4	[illegible]	3.0	2.6	[illegible]	[illegible]	2.8	1.7	1.6	3.0	2.[illegible]	4.0	2.2	2.3	2.6	1.9	2.1	1.9	1.9	1.4	1.4	1.6	1.4
342	3.1	2.9	2.6	2.7	5.3	4.4	4.1	3.9	2.3	[illegible]	2.[illegible]	2.8	6.5	6.1	5.5	5.6	3.3	3.0	2.9	3.[illegible]	6.[illegible]	7.1	6.3
355	2.4	1.7	1.8	[illegible]	2.8	[illegible]	[illegible]	[illegible]	0.5	4.[illegible]	0.6	1.8	2.[illegible]	1.7	1.5	1.8	1.5	1.1	1.2	1.4	1.5	1.4	1.3
351+(352+353+359)	2.7	3.8	3.7	2.6	4.[illegible]	5.5	4.6	3.6	1.5	5.8	[illegible].4	3.9	3.8	4.5	4.5	3.5	4.4	6.4	5.8	4.4	5.4	5.5	5.6
356+([illegible])	6.1	8.7	11.7	12.4	6.8	10.5	14.0	15.6	3.9	7.9	35.7	5.3	8.0	8.6	12.6	12.9	6.2	6.8	9.7	9.4	2.1	2.1	2.7
369+([illegible])	6.8	10.3	10.4	9.0	8.[illegible]	11.4	12.8	10.8	3.4	10.6	6.4	10.7	9.4	13.3	15.5	12.4	8.8	12.1	13.8	11.9	16.9	19.2	13.5
381	[illegible]	3.2	3.0	2.7	[illegible]	3.1	[illegible]	2.6	1.3	1.8	0.9	2.4	2.3	3.0	3.3	3.9	2.5	3.0	3.4	3.4	4.1	3.6	3.9
384	10.7	5.5	3.9	3.7	10.4	[illegible]	3.7	3.1	3.3	3.[illegible]	1.3	2.9	16.5	10.0	4.9	4.2	9.8	5.8	3.7	3.2	11.3	3.8	3.6
other	13.[illegible]	12.1	13.1	12.5	13.1	13.3	13.7	12.3	46.5	10.7	6.1	15.5	8.8	9.7	10.4	10.9	6.8	7.8	7.5	7.8	9.1	14.5	14.6
	Values in Z$000s (except numbers for employment and establishments)																						
Manufacturing, total	340830	643340	1317700	1771591	1270[illegible]	2[illegible]850	5[illegible]8400	724654	17510	32230	126600	[illegible]50663	64060	114840	233100	309361	80850	114230	151700	[illegible]47423	1022	1161	1323

a 1963, 1970 and 1975 for establishments. The number of establishments in total manufacturing in 1979 was 1342.

b For branch description see Table 5. Misc. includes 313, 351, 352, 353, 354, 356, 369, 390.

c 1979 value added in 311 was composed of the following: dairy and food products n.e.c (35.3 per cent of total); grain products (26.0%); meat (22.4%), bakery products (11.9%), chocolate and confectionery (2.2%); fruit and vegetable processing (1.5%). Composition of 313: alcoholic beverages (75.0%); non-alcoholic beverages (25.0%). For 321: cotton textiles (81.7%); knitted products, rope, cordage (13.6%); other textiles (4.7%). For 322: wearing apparel (91.3%); footwear (8.7%). For 369: glass and other non-metallic products (83.4%); earthenware products (16.6%). For 384: motor vehicles and reconditioning (81.3%); other transport and repair (18.7%). For misc.: soaps, pharmaceuticals (27.7%); fertilizers, insecticides, pesticides (25.1%); plastic products (14.5%); other manufactures (14.3%); basic chemicals and petroleum products (7.4%); chemical products n.e.c (7.2%); paints (5.7%).

d Total may not equal 100 because of rounding.

Source: UNIDO data base, information supplied by the UN Statistical Office with estimates by UNIDO, except for 1979 data derived from Census of Production, 1979/80 - Mining, Manufacturing, Construction, Electricity and Water Supply, Tables 2 and 8 (Central Statistical Office, Zimbabwe).

Food products, fabricated metal products and non-electrical machinery, wearing apparel (including footwear) and textiles provided 15.4, 11.9, 11.5 and 10.8 per cent of manufacturing employment in 1979. Food products and wearing apparel also accounted for more than 10 per cent of employment in other years (also fabricated metal products and non-electrical machinery except in 1963). As of 1979 manufacturing employed 147,423 persons (of which about 8.5 per cent were women), or about 6 per cent of the total labour force.

Fabricated metal products and non-electrical machinery accounted for the largest number of manufacturing establishments in 1974 (23.5 per cent), 1970 (19.2 per cent) and 1963 (16.9 per cent) followed by miscellaneous manufactures in 1974 (14.6 per cent) and 1970 (14.5 per cent) and by food products in 1963 (12.3 per cent).

Table 9 shows manufacturing value added per establishment, 1963, 1970 and 1974 and value added per employee, share of wages in value added, share of gross fixed capital formation in value added, the investment-surplus ratio and the share of value added in gross output, 1963, 1970, 1975 and 1979. Value added per establishment, in 1975 prices, rose from US$349,000 in 1963 to US$649,000 in 1974, falling to about US$565,000 in 1979. Value added per establishment in iron and steel and other metals was almost 6 times the figure for overall manufacturing in 1974, tobacco products was more than 3 times the 1974 average and beverages, textiles and paper (and paper products) were all more than twice the average. Lowest 1974 value added per establishment occurs in wood products manufacture, and the figure for fabricated metal products (excluding electrical machinery) was not much higher, indicating the relatively small scale of firms in these sectors.

Value added per employee, one measure of labour productivity (or capital intensity) [1] rose from US$4,475 in 1963 to US$5,569 in 1975, declining to US$5,350 in 1979 (1975 prices). Value added per employee in paper and paper products in 1979 was more than twice the manufacturing average, but in wood products other than furniture value added per employee was only about a quarter of the average value. On the basis of data for previous years, miscellaneous manufactures and rubber products were probably among the branches with highest value added per employee in 1979 (data not available for the year).

1/ This and similar measures may have several different interpretations. For a good discussion see A.S. Bhalla (ed.), Technology and Employment in Industry, chapter I (ILO, Geneva, 1981).

Table 9. Manufacturing value added per establishment and per employee, share of wage bill and gross fixed capital formation in value added, investment - surplus ratio and share of value added in gross output, by branch - Zimbabwe, 1963, 1970, 1975 and 1979 a/

Branch (ISIC code) b/	Value added per establishment (1975 Z$'000s)			Value added per employee (1975 Z$)				Share of wage bill in value added (per cent)				Share of gross fixed capital formation in value added (per cent)				Investment-surplus ratio c/				Share of value added in gross output (per cent)			
	1963	1970	1974	1963	1970	1975	1979	1963	1970	1975	1979	1963	1970	1975	1979	1963	1970	1975	1979	1963	1970	1975	1979
311/312	276	379	551	3145	3518	3727	4144	42.0	43.7	48.2	45.2	12.0	19.5	34.3	12.6	20.7	34.7	66.2	22.9	20.5	21.6	20.8	23.8
313	830	894	1415	11099	9447	7368	8246	30.4	28.0	28.8	32.7	11.2	13.5	25.5	9.6	16.0	18.7	35.9	14.3	57.4	57.9	57.3	59.0
314	1052	1310	1965	1845	4257	5100	5043	56.2	44.9	43.6	37.5	20.8	5.0	8.5	4.0	47.5	9.0	15.1	6.4	56.1	58.6	58.9	59.5
321	503	1064	1436	3430	4082	4926	4828	45.6	44.1	37.5	35.3	6.6	20.7	43.9	4.7	12.1	37.0	70.2	7.2	35.5	31.9	29.9	34.4
322 (321+323+324)	423	444	507	5480	3930	3316	3673	51.5	54.0	45.0	47.7	5.3	7.7	10.4	3.4	11.0	16.8	19.0	6.6	37.7	43.0	47.5	46.8
331	126	214	262	1376	1872	2749	1457	52.5	46.6	49.4	49.8	16.3	18.9	15.2	7.4	34.3	35.4	30.0	14.7	44.3	46.8	47.6	51.4
34	114	271	289	2854	3878	2885	3300	53.8	53.2	57.4	60.0	1.9	27.8	6.4	13.3	4.1	59.4	15.0	33.2	41.9	48.4	47.7	47.2
341	852	1018	1405	7181	8436	8000	11314	42.2	38.0	38.5	46.0	8.4	9.2	17.6	15.9	14.5	14.8	28.6	29.5	40.6	44.6	36.9	35.0
342	281	345	448	6592	7947	7750	7218	62.2	61.9	57.2	61.8	5.9	5.5	13.0	5.0	15.7	14.4	30.4	13.1	63.1	60.7	61.0	58.3
355	500	774	863	6354	9754	9056	-	40.1	37.2	31.5	36.7	2.5	26.4	6.5	5.8	4.1	42.0	9.5	9.3	43.5	48.3	45.2	44.7
351B (=361+369+369)	449	434	576	3877	3808	4443	4080	45.2	36.4	41.2	50.0	7.2	13.2	12.7	7.6	8.9	20.8	21.5	12.8	57.1	57.7	50.6	56.6
371A (=371+372)	1743	3248	3541	7262	9930	8585	7851	60.2	36.4	37.9	35.4	7.8	9.3	61.2	2.4	19.6	14.6	98.7	3.7	41.4	48.8	47.8	51.1
381A (=381+382)	182	498	353	4401	4899	5181	5354	57.7	51.5	51.2	48.9	5.7	11.5	12.0	7.0	13.4	23.4	24.6	13.6	44.4	44.6	42.1	48.8
383	171	360	491	3536	4443	4863	4300	49.5	43.0	47.1	64.5	7.6	7.1	7.7	6.5	15.0	12.7	14.6	18.2	37.9	38.9	40.0	40.1
384	424	639	678	3445	4776	6054	5305	79.7	73.9	56.1	57.8	4.3	6.6	3.6	6.5	21.2	25.4	19.8	15.3	36.2	43.7	37.7	40.6
Miscellaneous	493	467	611	4130	8844	10114	-	34.0	32.4	32.0	37.8	49.0	10.1	10.6	8.8	74.3	15.0	15.6	14.2	36.8	43.7	41.8	39.2
Manufacturing, total	549	510	649	4415	5183	5569	5350 d/	50.4	44.4	42.2	42.7	13.8	12.5	21.0	7.0	27.8	22.4	41.5	12.2	37.3	40.2	40.1	40.9

a/ Except 1963, 1970, 1974 for value added per establishment. Value added per establishment in total manufacturing was US$ 565,096 in 1979 (at 1975 prices). Data other than value added per establishment and employed are based on current Z$ prices. A dash (-) indicates data not available.

b/ For branch descriptions see table 5. Miscellaneous includes 323, 351, 352, 353, 354, 356, 385, 390.

c/ Defined as investment (gross fixed capital formation) divided by operating surplus (value added minus wage bill).

d/ Based on a 4 per cent upward adjustment of reported value added to correct for missing value added data for 355 and part Miscellaneous (323, 354, 356, 385), which accounted for 4.2 per cent of total value added in 1976, the last year for which data for these are available.

Source: UNIDO data base, information supplied by the UN Statistical Office, with estimates and calculations of comparative data by UNIDO Secretariat, except 1979 data other than constant price value added from Census of Production 1979 (0 - Mining, Manufacturing, Construction, Electricity and Water Supply, tables 2 and 8 (Central Statistical Office, Zimbabwe).

The share of wages in MVA dropped from 50.4 per cent in 1963 to 44.4 per cent in 1970 and to 42.2 per cent in 1975. The 1979 share was 42.7 per cent. The highest wage shares in value added in 1979 were in electrical machinery (a sharp rise from 1975), printing and publishing (also in 1975) and non-metal furniture (also in 1975), and the lowest wage shares were in beverages (also in 1963, 1970 and 1975), textiles and iron and steel and other metals. The wage share in transport equipment was highest in 1963 and 1970, and among the highest in 1975.

The share of capital formation in MVA dropped from 13.8 per cent in 1963 to 12.5 per cent in 1970, rose to 24.0 per cent in 1975 and dropped to 7.0 per cent in 1979. The highest shares of capital formation in value added in 1979 were in paper and paper products and non-metal furniture, the lowest in iron and steel and other metals and wearing apparel (including footwear). In 1975 the highest shares were in iron and steel and other metals and textiles, the lowest in transport equipment, and in 1970 the highest shares were in non-metal furniture and rubber products, the lowest in tobacco products and paper and paper products.

The investment-surplus ratio, i.e., capital formation divided by value added minus wages, provides a rough indicator of costs and benefits. [1] The higher the ratio the more costly, in terms of investment, is the production of surplus value added. The ratio for total manufacturing dropped from 27.8 per cent in 1963 to 22.4 per cent in 1970, rising to 41.5 per cent in 1975 and falling to 12.1 per cent in 1979. The ratio for wearing apparel, including footwear, was among the lowest in all 4 years, as was tobacco products (except 1963). Iron and steel and other metals had the lowest ratio in 1979, but the highest in 1975.

The share of MVA in gross output rose from 37.3 per cent in 1963 to 40.4 per cent in 1970, remained almost constant in 1975 and rose slightly in 1979 to 40.9 per cent. The share of value added in gross output in 1979 was highest in tobacco products, beverages and earthenware products, and lowest in food products.

1/ Rough because the many adjustments made in project social cost-benefit analysis are not included. A time stream using price discounting, rather than single years should be used.

Another rough efficiency indicator is the incremental capital-output ratio (ICOR), defined as the increase in fixed capital divided by the increase in value added. The lower the ICOR the greater the net output per unit of investment.[1] Table 10 shows ICORs calculated on a 3-year moving average basis for manufacturing by branch, 1963 to 1978. The table shows a cyclical trend in the ICOR for total manufacturing, with highest ICORs being reached in 1964-66 (2.68) and 1974-76 (3.46).

With the exception of 1974-76 and 1975-77, ICORs for wearing apparel and footwear were among the lowest over the whole period. Relatively low ICORs were also recorded over most of 1963-78 in beverages, printing and publishing, fabricated metal products and machinery (electrical and non-electrical) and (except mid 1960s) miscellaneous manufactures. ICORs for rubber products were high in the mid 1960s but low in the 1970s, whereas the opposite was true for earthenware products. ICORs were particularly variable for transport equipment, but they tended to be high (or negative, indicating a decrease in value added).

Most manufacturing takes place in Salisbury, which accounted for 46.4 per cent of MVA and 44.0 per cent of manufacturing employment in 1979, and Bulawayo, which accounted for 23.2 per cent of MVA and 28.7 per cent of employment in 1979 (Table 11). Other manufacturing centers are Que Que and Redcliff, Gwelo and Umtali. MVA per employee was highest in Que Que and Redcliff and in Gwelo in 1979, whereas in 1967 Salisbury had the highest MVA per employee.

As of 1979 manufacturing establishments employing up to 10 workers accounted for 17.7 per cent of establishments but only 0.9 per cent of manufacturing employment and value added (Table 12). In comparison, establishments employing more than 1000 workers accounted for only 3.9 per cent of establishments (i.e. 52 establishments) but provided 28.9 per cent of employment and 33.6 per cent of MVA. Value added per employee tended to be highest in establishments employing more than 500 workers.

1/ Like the investment-surplus ratio, the ICOR suffers from various conceptual and computational difficulties, thus the calculations should be taken as rough general indicators only.

Table 10. Incremental capital - output ratios (ICORs) in manufacturing, by branch Zimbabwe, 1963-1979 (3 year moving averages) a/

Branch ISIC code b/	1963-65	1964-66	1965-67	1966-68	1967-69	1968-70	1969-71	1970-72	1971-73	1972-74	1973-75	1974-76	1975-77	1976-78
311/312	1.55	1.99	2.41	1.20	1.02	1.75	1.73	1.66	1.46	1.98	1.94	1.74	1.25	0.84
313	0.80	0.46	0.52	0.77	0.96	0.60	0.53	0.59	0.61	0.24	1.52	2.70	1.44	1.29
314	(-)	(-)	(-)	0.30	0.77	0.45	1.26	1.19	0.43	0.55	0.60	1.44	0.86	1.43
321	1.75	2.01	1.83	1.58	1.19	1.11	0.77	0.69	0.48	1.08	2.29	4.29	[illegible]74	0.76
322F(=322+324)	0.40	0.42	0.46	0.47	0.50	0.36	0.41	0.37	0.32	0.41	1.07	(-)	(-)	0.42
331	1.04	1.62	[illegible].90	1.64	0.82	1.35	2.05	2.63	0.67	1.39	2.07	(-)	[illegible].50	0.13
33[illegible]	3.38	0.50	(-)	0.42	0.53	0.96	1.02	0.94	0.37	0.43	2.17	(-)	(-)	0.56
341	0.57	1.14	1.87	1.54	0.81	0.80	1.18	0.78	0.37	0.34	2.26	(-)	(-)	6.43
34[illegible]	2.67	0.96	0.86	0.47	0.50	0.45	0.43	0.41	0.32	0.45	1.21	5.50	10.0	0.57
355	(-)	(-)	(-)	0.73	0.93	0.73	1.47	1.44	0.84	0.78	1.05	1.33	5.0	0.33
361B(=361+362 +369)	0.81	0.47	0.29	0.36	0.47	0.73	0.64	0.93	1.01	1.96	6.29	(-)	(-)	7.96
371A(=371+372)	1.52	192.0	(-)	1.91	1.10	0.74	1.09	1.03	1.87	2.17	3.65	(-)	4.95	1.17
381A(=381+382)	0.57	0.77	1.05	0.57	0.41	0.39	0.55	0.61	0.60	0.63	1.33	(-)	(-)	1.11
383	0.29	6.0	0.90	0.61	0.50	0.31	0.46	0.50	0.42	0.51	0.89	1.46	2.22	1.12
384	(-)	(-)	(-)	0.68	0.61	26.50	(-)	6.74	0.74	0.84	1.02	1.79	(-)	2.1[illegible]
misc.	11.56	(-)	1.39	1.20	0.90	1.37	0.78	1.08	0.58	0.70	0.80	2.03	[illegible].45	1.0[illegible]
total manufacturing	1.37	2.68	2.26	1.04	0.85	0.87	0.85	0.88	0.85	1.13	1.96	5.48	3.58	1.08

a/ The ICOR is defined as the increase gross fixed capital in time period 0 divided by the increase in output (value added) in the following time period. Three year moving averages are used to smooth results and reduce the number of cases where the change in output is negative (in which case the ICOR becomes meaningless). Cases where change in 3 year output is negative are shown as (-) in the table. Since output change is lagged one year compared to investment change (net total investment should be measured but data are not available), a 3 year moving average actually includes one additional data year (e.g. 1975-77 ICOR reflects 1978 output change). Based on values in current Z$. The lower the (positive) ICOR, the more favourable is the investment - output ratio, i.e. more output is achieved with less investment.

b/ For branch descriptions see table 5. Misc. includes 323, 351, 352, 353, 354, 356, 385, 390.

Source: UNIDO Secretariat, based on information supplied by the UN Statistical Office, except 1979 value added from Census of Production 1977/80 - Mining, Manufacturing, Construction, Electricity and Water Supply, table 2 (Central Statistical Office, Zimbabwe).

Table 11. Regional shares in manufacturing value added and employment, and value added per employee, by region, Zimbabwe, 1967 and 1979

Region	Shares in total manufacturing value added (per cent)		Shares in total manufacturing employment (per cent)		Manufacturing value added per employee ($)	
	1967	1979	1967	1979	1967	1979
Salisbury	50.6	46.4	42.3	44.0	2205	5188
Bulawayo	28.4	23.2	33.7	28.7	1552	3977
Que Que and Redcliff	5.6	12.9	4.9	5.9	2103	10723
Gwelo	4.9	5.9	4.9	4.6	1824	6351
Umtali	2.8	3.0	4.1	5.9	1247	2524
Gatooma	2.4	1.9	3.2	2.6	1382	3718
Fort Victoria	0.4	0.8	0.8	0.9	964	4363
Other	5.0	5.8	6.1	7.5	1510	3803
Total [a]	100.1	99.9	100.0	100.1	1844	4915

[a] Totals (per cent) reflect rounding error.

Source: compiled by UNIDO Secretariat from Census of Production, 1979/80 - Mining, Manufacturing, Construction, Electricity and Water Supply, Table 10 (Central Statistical Office, Zimbabwe).

Table 12. Manufacturing value added, employment and establishments and value added per employee - distribution by size of establishment (numbers employed) - Zimbabwe, 1979

Distribution of establishments by size (numbers employed)	Proportion of total manufacturing establishments (per cent)	Proportion of total manufacturing employment (per cent)	Proportion of total manufacturing value added (per cent)	Value added per employee (Z$)
10 or less	17.7	0.9	0.9	4845
11-20	16.3	2.2	1.8	3950
21-50	22.1	6.5	5.8	4442
51-100	14.3	8.5	7.4	4291
101-200	9.6	10.6	8.8	4072
201-300	4.5	7.1	6.4	4449
301-400	3.4	8.6	8.2	4712
401-500	1.9	6.1	5.0	4034
501-750	3.5	9.6	10.7	5449
751-1000	2.8	10.9	11.3	5106
more than 1000	3.9	28.9	33.6	5711
Total manufacturing	100.0 (1342)a/	99.9 (147338)a/	99.9 (724654)a/	4918

a/ Totals (per cent) reflect rounding error. Absolute figures shown in parenthesis.

Source: Census of Production, 1979 '80 - Mining, Manufacturing, Construction, Electricity and Water Supply, table 8 (Central Statistical Office, Zimbabwe), with additional calculations by UNIDO Secretariat.

IV. PATTERN OF TRADE IN MANUFACTURES

Zimbabwe's international trade suffered considerably during the mid- and late 1970s from the effects of war and economic sanctions. The country's export volume index rose from 113 in 1970 to 123 in 1974 but declined to 118 in 1979 (1964 = 100). More significantly, terms of trade declined from 86 in 1970, to 84 in 1974 and to 56 in 1979, and the import volume declined from 115 in 1974 (91 in 1970) to 67 in 1979 (1964 = 100). [1] Thus foreign exchange availability declined sharply and economic expansion was severely curtailed.

The value of commodity exports in 1979, in terms of current Z$s, was 144 per cent greater than in 1970 (Table 13). Metal products accounted for 27.4 per cent of the total in 1979, crude materials accounted for 24.2 per cent, food and food products for 18.3 per cent and beverages, tobacco and tobacco products for 13.6 per cent. The shares of edible oils and fats and beverages, tobacco and tobacco products tended to increase during the period 1970-79 (with the highest share occuring in 1978 in both cases), whereas the shares of machinery and transport equipment and chemicals tended to decline. The share of food and food products tended to increase until 1975. The 1970 shares of foods, crude materials and metal products were significantly higher than in 1965, whereas the 1970 shares of beverages and tobacco, chemicals and miscelleaneous manufactures were well below 1965 levels.

The value of commodity imports in 1979 was 133.9 per cent greater (in current Z$) than in 1970 (Table 14). In comparison to export shares, 1979 import shares of foods, beverages and tobacco, crude materials and oils and fats were very low. The main import items in that year were fuels and electricity (29.5 per cent of total), material based and miscellaneous manufactures (27.5 per cent), machinery and transport equipment (23.4 per cent) and chemicals (15.9 per cent). In terms of structural change, the table shows that the main feature has been the rapidly

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1/ Source: Monthly Digest of Statistics, April 1980. (Government of Zimbabwe).

Table 13. Structure of commodity exports, with index numbers for total commodity exports, Zimbabwe, 1965 and 1970-79 a/

Commodity group (and SITC code)	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 b/
	group shares in total (percent)										
food (0)	10.6	18.7	21.8	26.0	22.9	25.1	28.5	18.3	19.6	19.4	18.3 (239.2)
beverages and tobacco (1)	35.8	10.7	12.2	13.5	16.2	15.6	14.8	15.9	15.2	17.9	13.6 (309.9)
crude materials (2)	13.6	23.5	22.6	21.4	20.5	20.5	19.4	23.2	25.6	23.0	24.2 (250.9)
fuels and electricity (3)	4.5	3.2	2.1	1.0	0.6	0.6	0.9	1.2	1.5	1.4	1.6 (121.8)
edible oils and fats (4)	0.2	0.1	0.2	0.2	0.3	0.5	0.2	0.6	1.0	1.1	1.0 (3050.0)
chemicals (5)	3.3	1.3	1.6	1.3	1.2	1.1	1.0	1.1	0.9	0.8	0.9 (151.5)
metal products (6)	11.2	26.7	23.5	22.5	24.5	21.9	21.3	26.7	24.3	24.1	27.4 (249.8)
machinery and transport equipment (7)	6.2	5.2	3.9	3.5	2.7	3.2	3.4	2.5	2.4	2.6	2.5 (114.8)
manufactures, miscellaneous (8)	14.7	10.6	12.0	10.5	11.2	11.5	10.5	10.4	9.6	9.6	10.6 (244.0)
sub-total, manufactures (5-8)	35.4	43.8	41.0	37.8	39.6	37.7	36.2	40.7	37.2	37.1	41.4 (229.9)
	index numbers (1970 = 100)										
TOTAL	113.3	100.0	109.9	126.3	153.9	189.5	189.1	210.3	199.6	221.7	244.0

a/ Based on F.o.b. values in current A$. Totals differ from those reported in national accounts data.

b/ Group index numbers are shown in parenthesis for 1979 (approximately equal to 1979 index number for total times ratio of 1979 to 1970 group shares).

Source: Government of Zimbabwe, Treasury (export values).

Table 14. Structure of commodity imports, with index nu bers for total commodity imports, Zimbabwe, 1965 and 1970-79 a/

commodity group (and SITC code)	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979 b/
	group shares in total (percent)										
food (0)	7.8	5.2	4.6	3.5	4.2	3.3	3.1	1.9	1.7	1.1	1.8(79.5)
beverages and tobacco (1)	2.9	0.6	0.4	0.4	0.6	0.3	0.3	0.3	0.3	0.3	0.4(140.0)
crude materials (2)	4.1	5.3	4.1	4.4	4.5	4.9	3.7	3.7	3.1	3.3	3.4(148.0)
fuels and electricity(3)	4.9	6.9	6.5	7.5	7.6	10.3	14.7	20.0	22.6	22.3	29.5(1000.6)
edible oils and fats (4)	1.1	0.4	0.5	0.3	0.2	0.7	0.5	0.5	0.5	0.1	0.4(220.0)
chemicals (5)	11.2	11.4	11.5	11.8	11.2	15.6	13.4	12.8	14.0	15.1	13.9(285.1)
manufactures, material based and misc. (6,8)	36.2	38.2	34.3	35.3	33.9	33.9	28.2	29.4	29.5	32.3 c/	27.5(167.9)
machinery and transport equipment (7)	31.7	31.9	38.0	36.7	37.8	31.1	36.1	31.4	28.3	25.5	23.2(170,2)
sub-total, manufactures (5-8)	79.1	81.5	83.8	83.8	82.9	80.6	77.7	73.6	71.8	72.9 c/	64.6(185.2)
	index numbers (1970 = 100)										
TOTAL	102.0	100.0	120.3	117.0	131.3	186.6	196.6	163.0	165.0	170.5 c/	233.9

a/ Based on values in current Z$. Totals differ from those reported in national accounts data.

b/ Group index numbers are shown in parenthesis for 1979 (approximately equal to 1979 index number for total times ratio of 1979 to 1970 group shares),

c/ Data for SITC 6,8 (and also sub-total and total) for 1978 adjusted by UNIDO.

Source: Government of Zimbabwe, Treasury (import values).

increasing import share of fuels and electricity, whereas the shares of material based and miscellaneous manufactures and machinery and transport equipment tended to decline since the early 1970s.

Export-trade ratios, a rough indicator of international competitiveness, are shown in Table 15. The ratios in 1979 were very high, near complete export dominance (= 1.0), for foods, beverages and tobacco and crude materials. Moreover, the ratios for these products tended to increase somewhat during the 1970s. On the other hand, 1979 export-trade ratios for fuels and electricity, chemicals and machinery and transport equipment were very low, near complete import dominance (=0.0), and were tending to fall somewhat (especially fuels and electricity up to 1974). The ratio for material based and miscellaneous manufactures reflected moderate export dominance (0.6) in 1979 and showed a slightly upward trend over the period covered.

Table 15. Export-trade ratios, Zimbabwe, 1965 and 1970-79, with regional comparisons [a]

Commodity group (and SITC code)	1965	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
	ratios										
food (0)	.61	.79	.82	.90	.87	.90	.90	.93	.94	.96	.92
beverages and tobacco (1)	.93	.95	.96	.97	.97	.98	.98	.99	.98	.99	.97
crude materials (2)	.79	.82	.84	.85	.85	.82	.84	.89	.91	.91	.89
fuels and electricity (3)	.51	.33	.24	.14	.08	.05	.06	.07	.08	.08	.06
edible oils and fats (4)	.19	.17	.30	.44	.61	.45	.34	.61	.71	.94	.73
chemicals (5)	.25	.11	.11	.12	.12	.07	.07	.10	.07	.07	.07
manufactures, material based and misc. (6,8)	.45	.51	.50	.52	.56	.51	.53	.63	.59	.59 [b]	.60
machinery and transport equipment (7)	.18	.15	.09	.10	.08	.10	.09	.10	.10	.12	.10
sub-total, manufactures (5-9) [c]	.34(.19)	.34(.19)	.36(.22)	.32(.18)	.35(.17)	.33(.16)	.32(.10)	.43(.09)	.40(.08)	.41 [b] (.08)	.41(.09)
total [c]	.54(.48)	.51(.50)	.49(.48)	.54(.49)	.55(.50)	.52(.54)	.50(.45)	.57(.49)	.56(.47)	.58 [b] (.43)	.57(.50)

[a] Export-trade ratios equal export value divided by value of exports plus imports. Thus 0 indicates complete import dominance, 1.00 equals complete export dominance and 0.5 equals export-import balance.

[b] Import data for SITC 6,8 (and also sub-total and total) for 1978 adjusted by UNIDO.

[c] Comparative data for developing Africa are shown in parenthesis for manufactures and total (including SITC 9); source: Cambridge Economic Policy Review, vol.3, no.6 (December 1980).

Source: Government of Zimbabwe, Treasury (export and import values in current Z$), except as noted in footnote c.

Further reading

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