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Background paper

SHORT AND MEDIUM-TERM PROSPECTS FOR EXPORT OF MANUFACTURES FROM SELECTED DEVELOPING COUNTRIES

- BRAZIL -

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Conference on Trade and Development

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foreign trade by degree of processing, but statistics compiled on that basis are not yet available, much less historical series, so that for this study it was necessary to work out a special system. Generally speaking, all products that have undergone industrial processing are considered to be manufactures, though this definition does not always prove unambiguous. So far as the historical data are concerned, this explains the difference between the overall results shown in this study and those found in other publications; it might also justify any minor differences found in the data given for the various countries studied in this series.

10. The scope for direct survey of the export prospects for certain products widens as industry becomes more diversified and the market expands. Home demand has shrunk in Brazil in recent years, and the reaction to this has been to turn to exports as a way out of the difficulty. Brazil's general policy has recently featured a series of brisk promotion measures. The study shows that there is a close connexion between export possibilities and home demand, especially as regards basic equipment and capital goods. It is nevertheless part and parcel of the general economic development plan that export flows should be strengthened and increased, and the impression is that, even when home demand is fluctuating, measures to that end might produce good results.

11. In order to take that factor into account, a double projection was made to show the minimum and maximum attainable in inverse ratio to the possible evolution of home demand. Needless to say, the figures are no more than a rough guide and are based on the assumption that all the practical problems which arise in every industrial sector, and which are briefly indicated in the report, will be solved.

12. Among the general problems facing Brazil is that of steadying the rate of exchange. Sporadic adjustments of the cruzeiro rate do not eliminate transitory disparities between domestic costs and the value of the currency. This factor brings into programming, at both the general and the enterprise level, an element of uncertainty so far as systematic exporting is concerned.

13. Apart from the imbalance between exchange rate fluctuations and domestic costs, there are limiting factors in the shortcomings of the system of marketing abroad and the need, in some cases, to establish or tighten quality controls. However, the other factors examined - the physical availability and cost of raw materials, installed productive capacity and technical knowledge - do not, in most cases, present significant obstacles (see table 7 below).

14. In reality these requirements represent the unknowns in the equation as it now stands. Although the other parameters have been clarified to the extent that circumstances allow, the solution of the problem is still dependent on several factors, including some that are measurable, such as the various forms of promotional activity on the part of public authorities, and others that are harder to assess, such as the demand of the domestic market, which is bound up with the country's economic development.

15. The estimate of potential increases in the value of exports of manufactures (table 8), which is based on information collected at the end of 1965, shows that total export capacity will amount to some US $160 million in one or two years' time and almost $210 million in four or five years' time, provided that the volume of home demand remains limited (hypothesis A). On the assumption that home demand is stabilized, the estimated figures for the two periods are $100 million and $130 million respectively

16. It should be pointed out once again that the above figures are given purely as a guide; they represent, not targets for an export programme, but an assessment of industrial export capacity under the specific conditions referred to in the preceding paragraphs.

I. EXPORTS IN RECENT YEARS

17. Brazil, traditionally an exporter of tropical products and of certain mineral and agricultural raw materials, has in recent years shown some propensity to export manufactures. The development of manufacturing industry, the prospects opened up by economic integration projects in the LAFTA area, the institutional incentives to export, and above all the decline in home demand - all these are factors whose convergent effects are already in evidence in the structure of exports (see table 1).

18. The figures in table 1 show the predominance of raw materials in Brazilian exports, but also a notable advance in classes 6 (Machinery and vehicles) and 7 (Manufactures).

Table 1

BRAZIL: EXPORTS BY MAIN CLASSES OF PRODUCTS

Class No.	Heading	1960	1961	1962	1963	1964	1965
				Millions of dollars			
1	Live animals	-	-	-	-	1	1
2	Processed or unprocessed raw materials	299	421	387	397	435	487
4	Food and beverages	936	935	792	968	919	986
5	Chemical, pharmaceutical and similar products	19	20	15	17	18	15
6	Machinery and vehicles, parts and accessories	2	11	12	11	18	29
7	Manufactures (classified by raw material)	5	3	5	9	32	63
8	Other manufactures	1	1	1	1	2	3
9	Gold, currency and special transactions	13	12	2	3	5	11
	Total	1,269	1,403	1,214	1,406	1,430	1,595
				Indices 1960 = 100			
1	Live animals	-	-	-	-	-	-
2	Processed or unprocessed raw materials	100	141	129	133	145	163
4	Food and beverages	100	100	85	103	98	105
5	Chemical, pharmaceutical and similar products	100	154	115	131	138	115
6	Machinery and vehicles, parts and accessories	100	550	600	550	900	1,450
7	Manufactures (classified by raw material)	100	60	100	180	640	1,260
8	Other manufactures	100	100	100	100	200	300
9	Gold, currency and special transactions	100	92	15	23	38	85
	Total	100	111	96	111	113	126
				Percentages			
1	Live animals	-	-	-	-	-	0.1
2	Processed or unprocessed raw materials	23.6	30	31.9	28.2	30.4	30.5
4	Food and beverages	73.7	66.6	65.2	68.9	64.4	61.8
5	Chemical, pharmaceutical and similar products	1.0	1.4	1.2	1.2	1.3	1.0
6	Machinery and vehicles, parts and accessories	0.2	0.8	1.0	0.8	1.3	1.8
7	Manufactures (classified by raw material)	0.4	0.2	0.4	0.6	2.2	3.9
8	Other manufactures	0.1	0.1	0.1	0.1	0.1	0.2
9	Gold, currency and special transactions	1.0	0.9	0.2	0.2	0.3	0.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of Finance, Economic and Financial Statistics Service.

19. Table 2 demonstrates even more clearly the predominance of raw materials in Brazilian exports.

Table 2

BRAZIL: MAIN EXPORT ITEMS

(Thousands of dollars)

Product	1962	1963	1964	1965
Coffee beans	642,670	748,283	759,702	706,587
Raw cotton	112,166	114,241	108,259	95,652
Ores (iron and manganese)	95,797	95,099	101,163	132,197
Cocoa and Derivatives	41,610	51,368	46,456	41,394
Pine-wood, sawn	36,228	34,769	46,363	51,682
Sisal	24,780	36,449	37,480	24,615
Sugar	39,500	72,429	33,140	56,730
Tobacco leaf	23,601	24,120	28,293	26,226
Castor oil	14,814	17,786	24,434	26,753
Other	183,018	212,002	244,500	433,643
Total:	1,214,184	1,406,480	1,429,790	1,595,479

Source: Ministry of Finance, Economical Financial Statistics Service.

20. Coffee accounts for about 50 per cent of the total, followed by cotton and ores (iron and manganese) in the proportion of some 7 per cent each. Cocoa and its derivatives, pine-wood, sisal, sugar, leaf tobacco and castor oil also stand out. To judge from their volume, exports of manufactures seem marginal, but their dynamic nature is clear from the appreciable increases recorded in the classes already mentioned - Machinery and vehicles and Manufactures - especially in 1965. In that year total exports of manufactures in classes 5 to 8 amounted to $110 million, compared with $70 million in 1964.

21. The statistical classification of Brazilian exports as shown in table 1, with a division into eight main classes or categories of products, does not in itself provide a means of calculating the quantity of manufactures exported.[1/] In practice the sum of classes 5 to 8 (Chemicals and chemical products; Machinery, vehicles and parts; Manufactures classified by raw material; and Miscellaneous manufactures) is often taken as a measure of the exports of manufactures, but it should be remembered that a considerable variety of manufactures are scattered among the other classes. Thus yarns, synthetic rubber, wood pulp for paper-making, etc., are included in class 2, "Processed or unprocessed raw materials"; similarly, canned meat and fruit, beverages, etc., come in class 4, "Food and beverages".

22. For this reason exports of manufactures have, in this study, been divided into six classes (numbered I to VI). The first two (I and II) include the manufactures which, in the official statistics, are spread about in classes 2 and 4 respectively, while the remainder (III to VI) coincide with the official statistical classes 5 to 8 respectively (see table 3).

23. The figures for total exports show an increase which becomes spectacular in the last two years covered, 1964 and 1965.[2/] The figure of $50 million recorded in 1963 was almost doubled (to $93 million) in 1964 and more than trebled in 1965, when nearly $160 million worth of manufactures were exported. Exports of manufactures represented 10 per cent of total exports in 1965. Processed raw materials accounted for rather more than 15 per cent by value of all exported manufactures in 1965.

1/ In this report and subsequent reports in this series, the term "manufactures" includes "semi-manufactures", which are generally those products so defined in document TD/B/C.2/3 prepared on the request of the Special Committee on Preferences. In a small number of cases and for reasons such as the special importance of a given product to the economy of particular countries, it was considered desirable to depart from this classification.

2/ Preliminary reports covering the first six months of 1966 indicate that exports of manufactures have declined slightly - about 7 per cent - by comparison with the corresponding period of 1965. The main cause of this fall was a reduction in exports of iron and steel products to Argentina.

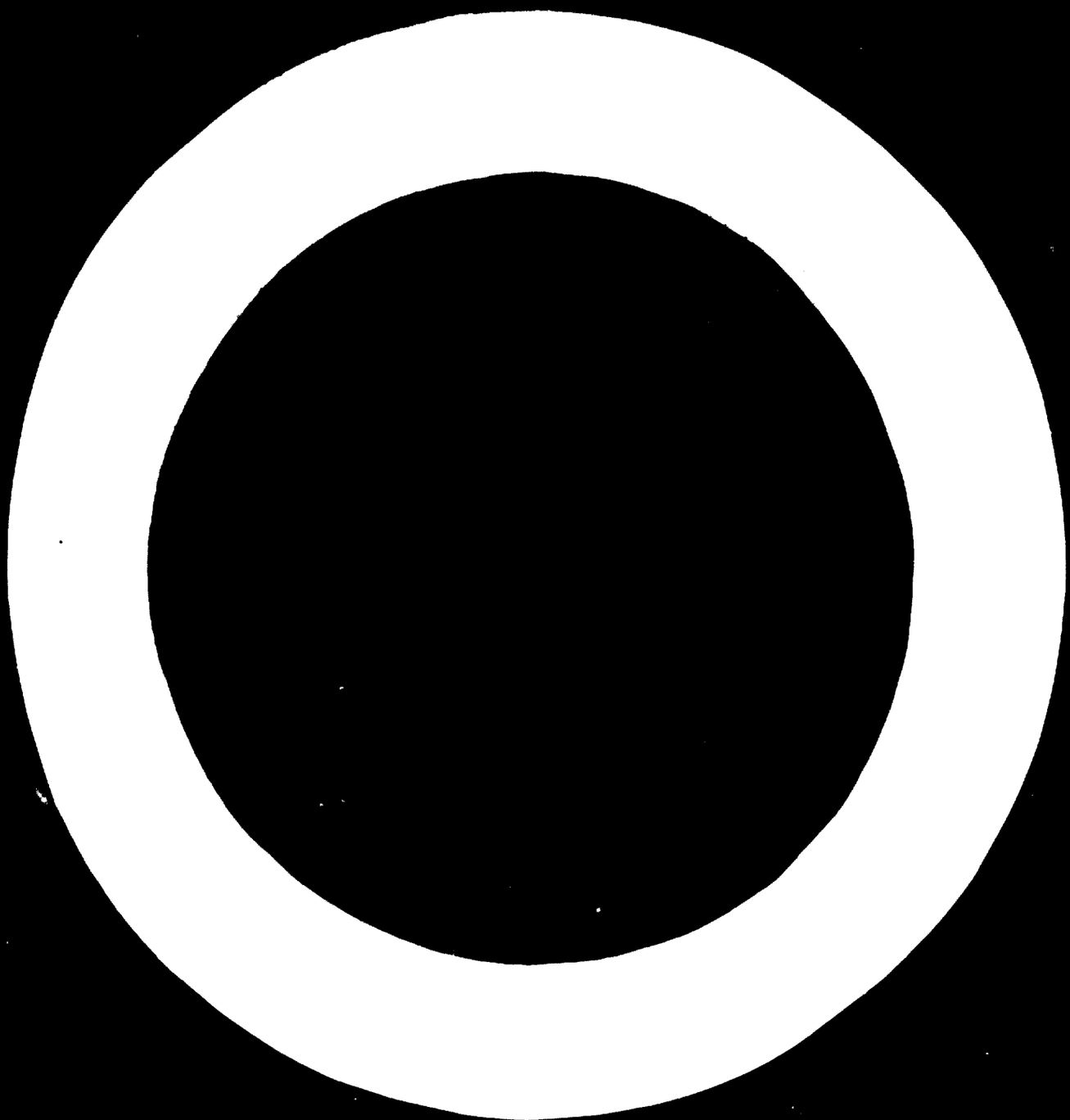


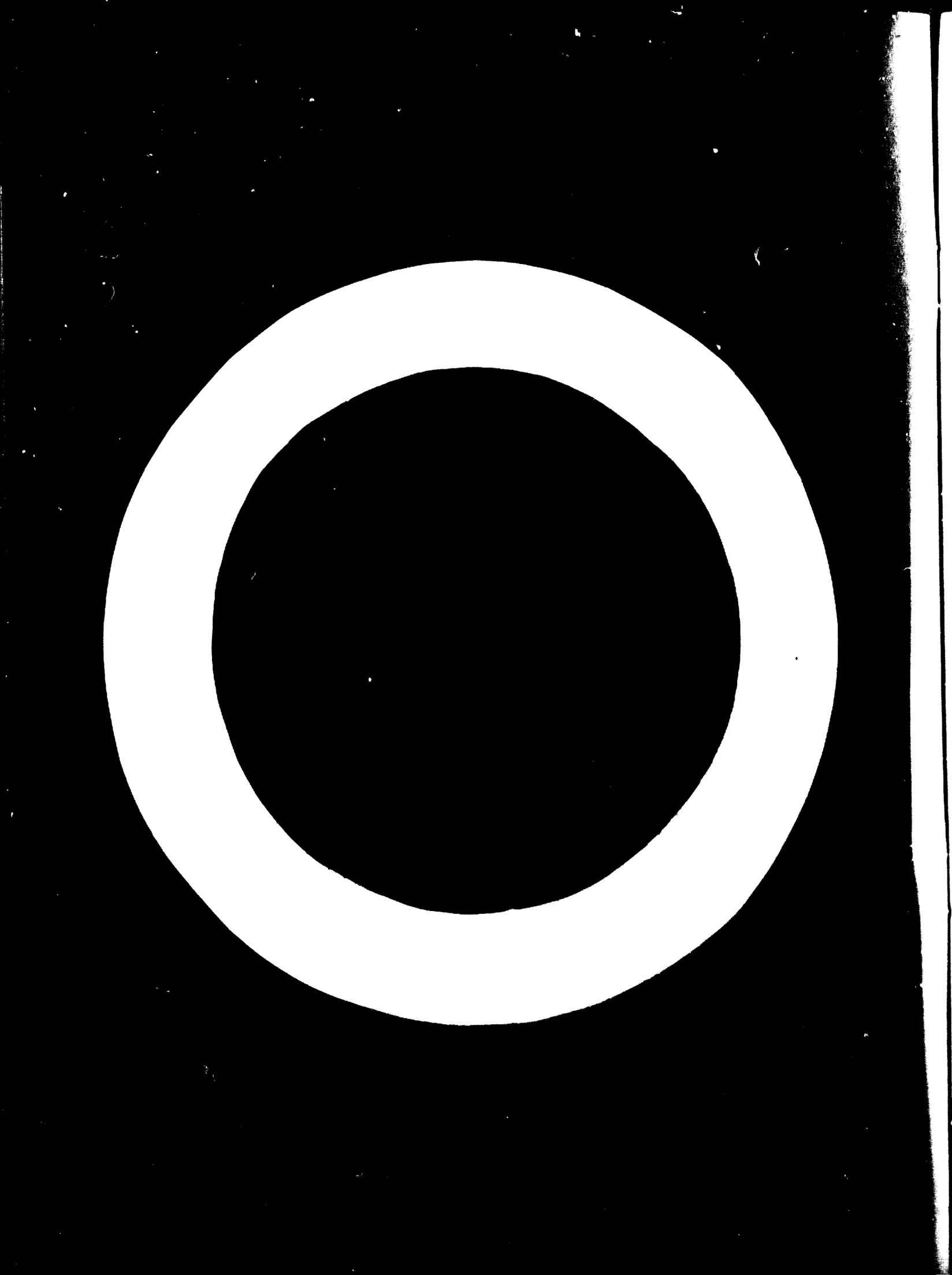
Table 3

BRAZIL: EXPORTS OF MANUFACTURES, 1960-1965

(Dollars)

Number of class according to:								
This report	The official Brazilian statistical classification	Products	1960	1961	1962	1963	1964	1965
I	2	**Processed or unprocessed raw materials**						
		1. Dressed skins and leather	1,237,327	1,487,471	1,595,277	1,305,962	1,312,065	1,168,480
		2. Synthetic rubber	-	91	-	602,920	2,108,013	1,396,584
		3. Wood, worked	636,705	800,347	487,505	893,866	2,038,660	1,397,787
		4. Chemical and mechanical wood pulp	36,699	440,600	906,254	396,748	1,783,113	6,425,623
		5. Precious and semi-precious stones, cut	67,700	133,766	55,162	4,481	16,130	454,411
		6. Wool tops	-	-	-	207,496	2,955,803	1,371,059
		7. Textile yarns	830,400	377,662	183,443	207,809	507,410	3,730,375
		8. Artificial and synthetic fibres and yarns	12,035	20,667	325	3,020	90,947	24,624
		9. Animal fats	-	-	1,068	4,210	-	-
		Sub-total (class 2)	2,820,866	3,260,594	3,229,034	3,626,495	10,756,141	24,363,345
II	4	**Food and beverages**						
		10. Beverages	160,025	96,682	11,022	93,235	502,466	190,800
		11. Canned meat and related products	9,441,996	14,740,969	9,597,871	5,911,100	9,269,649	19,516,878
		12. Canned fish and related products	4,869	113	80	3,013	1,436	-
		13. Processed milk	6,331	-	-	69	-	-
		14. Powdered eggs	-	77,332	11,489	7,200	48,009	-
		15. Canned fruit	346,086	299,245	469,379	2,394,849	1,790,576	2,229,971
		16. Caramels, etc.	1,482	927	595	4,829	1,819	-
		17. Preparations of coffee	-	53,057	55,857	245,224	212,198	799,143
		18. Preparations of cocoa	1,011	-	16,416	13,715	11,828	31,394
		19. Extracts and essences	-	-	-	-	-	-
		20. Canned vegetables	172,279	273,348	306,549	440,938	969,168	1,136,535
		Sub-total (class 4)	10,134,079	15,491,673	10,469,258	9,114,172	12,797,134	23,904,421
III	5	**Chemicals and chemical products**						
		21. Inorganic chemical elements and products	973,515	3,772,672	550,846	363,849	386,127	1,454,367
		22. Organic chemical products	8,728,585	11,446,697	9,561,696	11,314,526	11,301,533	5,156,033
		23. Pharmaceutical and medicinal products	644,781	700,633	829,049	941,682	1,208,837	1,677,125
		24. Tanning and dyeing extracts	442	305,355	267,973	230,105	594,683	1,391,726
		25. Essential oils and aromatic products, perfumes, soaps and other toilet articles	2,459,432	3,503,294	3,455,903	3,402,583	2,873,830	3,209,642
		26. Fertilizers, manufactured	63	279	392	375	449	-
		27. Plastic materials and synthetic resins	316,019	187,963	32,271	39,208	350,052	703,171
		28. Miscellaneous products of the chemical industry	24,238	78,425	61,569	312,232	932,999	893,658
		Sub-total (class 5)	13,147,075	19,995,318	14,750,699	16,604,530	17,648,510	14,575,724
IV	6	**Machinery and vehicles, parts and accessories**						
		29. Electrical machinery and apparatus, parts and accessories	173,687	201,132	558,129	507,526	1,683,600	4,392,488
		30. Power generating machinery	98,490	122,274	57,762	120,422	982,140	608,883
		31. Agricultural machinery and implements (excluding tractors)	6,771	4,524	35,561	47,031	98,502	433,850
		32. Transport and lifting machinery and equipment	293,081	373,323	277,884	527,309	1,241,685	4,163,485
		33. Machinery and equipment for the textile industry	6,099	34,606	11,600	10,108	114,751	445,285
		34. Machinery and equipment for other industries	407,283	1,548,268	1,205,832	2,002,952	2,596,260	3,990,217
		35. Other machinery and equipment	553,634	946,405	1,193,836	2,398,141	4,080,399	7,553,956
		36. Vehicles, parts and accessories	406,642	8,026,784	8,696,246	5,022,001	7,499,124	7,290,646
		Sub-total (class 6)	1,943,687	11,256,816	12,036,850	10,632,490	18,266,221	28,878,810
V	7	**Manufactures classified by raw material**						
		37. Of skins and leather	249	2,704	329,434	1,437	502,455	88
		38. Of rubber, ebonite and similar products	10,577	29,032	273,509	428,786	5,353,224	3,471,418
		39. Of wood and bark	463,728	442,579	684,650	678,063	679,294	665,802
		40. Of paper and paper articles	153,982	111,264	69,272	28,165	60,742	68,841
		41. Of non-metallic minerals	403,045	392,808	498,868	448,232	717,825	1,128,636
		42. Of precious and semi-precious minerals	275	7,588	19,835	44,762	92,537	200,086
		43. Of base metals	2,739,389	2,908,560	1,254,205	3,289,307	17,217,923	44,733,267
		44. Of metals	332,030	398,484	326,078	365,803	482,823	1,723,740
		45. Of textiles	3,782,335	1,709,668	1,914,358	3,556,567	6,956,556	10,989,159
		Sub-total (class 7)	7,885,609	6,002,687	5,370,209	8,841,122	32,063,379	62,981,236
VI	8	46. Sanitary and lighting fixtures and fittings	141,090	59,310	84,192	253,172	125,237	185,152
		47. Furniture and accessories	40,206	33,442	27,184	58,199	79,342	128,839
		48. Travel goods, handbags and similar articles	2,252	5,758	9,269	5,063	16,432	35,351
		49. Clothing	41,611	102,390	118,196	73,073	190,028	135,868
		50. Footwear	138,402	219,334	137,892	126,287	171,671	306,927
		51. Professional and scientific apparatus, instruments and articles	35,809	67,274	70,801	283,424	398,783	543,201
		52. Office and stationery supplies	1,845	7,969	8,459	13,794	9,785	10,516
		53. Small merchandise and articles for personal use	18,550	27,957	47,102	34,248	66,964	87,921
		54. Cutlery	11,119	12,763	4,329	1,226	30,854	133,029
		55. Other manufactures	319,493	679,015	451,405	453,336	936,095	1,539,455
		Sub-total (class 8)	750,377	1,215,212	958,829	1,301,822	1,965,191	3,106,279
		GRAND TOTAL:	36,681,693	57,222,300	46,814,879	50,120,631	93,492,276	157,809,613

Source: Data from the Ministry of Finance, Economic and Financial Statistics Service, and the Foreign Trade Department (CACEX) of the Bank of Brazil, processed by ECLA.



24. Until 1963 dressed skins and leather held first place in this class of exports, but in 1964 exports of wood pulp reached a high figure, and in that and the following year exceeded the value of exports of dressed skins and leather. The pulp exported is mainly chemical pulp for paper-making, manufactured from eucalyptus wood, and its main market is Argentina. The dressed skins and leather, almost equally divided between cowhide leather and the skins of other animals, mainly alligator, are shipped mainly to the United States and European countries.

25. Synthetic rubber has been exported in appreciable quantities since 1963 as a result of the level of output reached in that year by the plant in the State of Rio de Janeiro. The product is SBR, of which Mexico was until 1964 practically the only buyer, taking $2.1 million worth. In 1964 the value of synthetic rubber exports rose to $2.4 million, and buyers included Argentina and Chile.

26. There are good markets throughout the world for worked wood (chipboard, celotex and coreboard); in 1964 the main buyer was the United States, which took $838,000 worth out of total exports of $2 million; the figure for total exports rose to nearly $4 million in 1965.

27. Items in the other sub-classes were exported on a much smaller scale, although some significant progress was made, particularly by textile yarn exports, which increased from less than $500,000 in 1964 to $3.7 million in 1965.

28. In the food and beverages class the most important export sub-class is canned meat and related products. The statistical series for this sub-class shows marked fluctuations; the value of exports increased from $9.4 million in 1960 to $14.7 million in 1961, fell to $5.4 million in 1963, and increased again to $9.2 million in 1964 and $19.5 million in 1965. A large proportion of these products is sold to the United States ($7 million worth of canned beef and $83,000 worth of meat extract in 1965), and almost all the rest goes to European countries, especially Belgium. The irregularity in exports reflects fluctuations in output.

29. Canned fruit exports reached a peak of $2.4 million in 1963, then dropped to $1.8 million in 1964, recovering slightly to $2.2 million in 1965. This figure covers $292,000 of canned fruit ($165,000 of roasted cashew nuts, sent mainly to Argentina), $57,000 of fruit flour ($34,000 of banana flour to the United States) and $2 million of other fruit preparations (almost entirely orange juice exported to the Federal Republic of Germany, the United States and - in smaller quantities - Canada).

30. An increase in canned vegetable exports can also be observed, from $172,000 in 1960 to $959,000 in 1964 and $1.1 million in 1965. The main product was palmette,

at $1 million ($631,000 to France, $145,000 to the United States, $85,000 to Belgium, etc.).

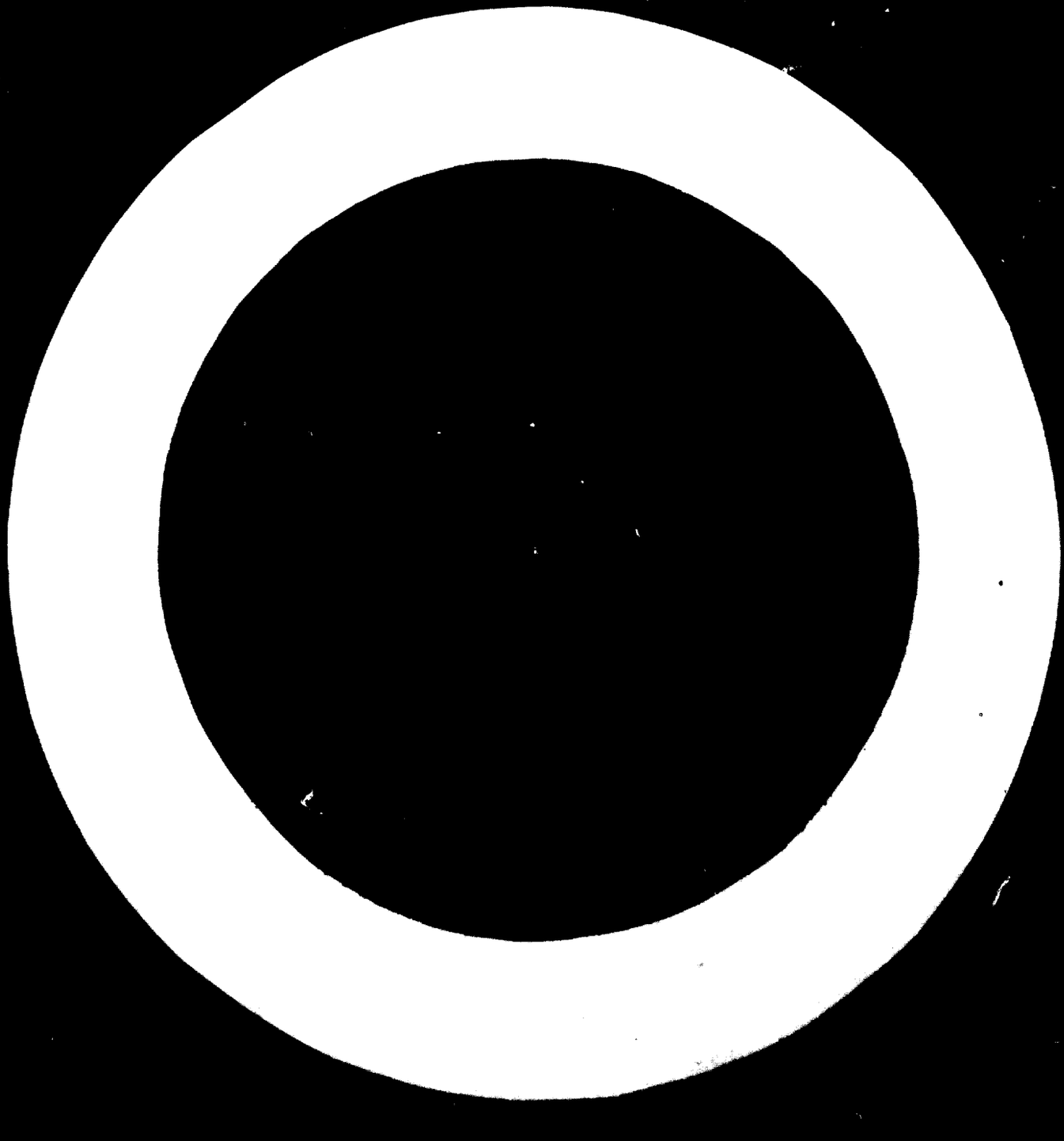
31. The food and beverages class accounted altogether for 30 per cent of all manufactures exported in 1960; the increase in this class of exports, though appreciable till 1964, did not keep pace with the general expansion of exports, and its share of the total was only 15 per cent in 1965.

32. Exports of chemicals and chemical products have been somewhat static, fluctuating around $15 million in recent years. In 1965 their total value was $14.6 million: $5.2 million of organic chemical products; $3.2 million of essential oils and aromatic products, perfumes, soaps and other toilet articles; $1.7 million of pharmaceutical and medicinal products; and $1.6 million of inorganic chemical products and other minor items.

33. Exports of organic chemical products include menthol ($4.1 million in 1964, including $2.9 million to the United States, $373,000 to the United Kingdom, $150,000 to Hong Kong and smaller quantities to places all over the world) and ethyl alcohol ($340,000, almost all to the United States). The value of exports of essential oils and aromatic products, perfumes, soaps and other toilet articles fluctuated around $3 million a year during the period considered. In 1965 it rose to $3.2 million, including $1.1 million of peppermint oil ($250,000 to the Federal Republic of Germany, $229,000 to the Republic of China, $168,000 to the United Kingdom and smaller quantities to other parts of the world); $1 million of rosewood oil (main importers, the United States and the United Kingdom), and $596,000 of sassafras oil (almost all to the United States), plus smaller amounts of other products.

34. Exports of pharmaceutical and medicinal products increased steadily, from $644,000 worth in 1960 to $1.7 million worth in 1965. Predominant amongst them were penicillin ($231,000 exported to Canada, the Philippines, the United States and elsewhere), caffeine ($202,000 exported in 1964, mainly to Latin American countries), liver extract ($147,000, including $114,000 to the United States and $27,000 to Italy) and certain medicinal products (vitamin B.12, antibiotics in general, pills, injections etc.).

35. Until 1964 inorganic chemical products were exported in relatively modest quantities, though some large shipments were made at the beginning of the period ($3.8 million in 1961), including especially "salts and other organic and inorganic compounds of thorium, of uranium and of rare earth metals" ($3.2 million to the United



States). In 1965 the volume of exports was again considerable, exceeding $1.5 million in value and going mainly to the United States.

36. There was a marked increase in exports of tanning and dyeing extracts, of which nearly $600,000 were exported in 1964, and $1.4 million in 1965, to all parts of the world (Romania, Uruguay, Netherlands, Chile, Peru, the Federal Republic of Germany, Bulgaria, etc.).

37. Lastly, exports of "Miscellaneous products of the chemical industry" increased sharply from 1962 to 1963, and even more sharply from 1963 to 1964, but diminished slightly in 1965. The value of exports in this sub-class in 1965 was nearly $900,000, including $667,000 worth of glues of animal origin sent to the United States and $115,000 worth of gluten and gluten flour sent to the Netherlands.

38. Despite the increases noted in certain sub-classes, exports of manufactures in the chemical class as a whole did not expand much owing to the reductions in exports of various other sub-classes.

39. Exports in the "Machinery and vehicles, parts and accessories" class increased greatly between 1960 and 1964: from less than $2 million in 1960, they rose sharply to $11 million in 1961, remaining at that level until 1963; there was a further rise to $18.3 million in 1964 and to $28.9 million in 1965.

40. The largest export sub-class in 1965 was "Other machinery and equipment", which increased in value from $554,000 in 1960 to over $7.5 million in 1965. The largest item was domestic sewing machines, of which 71,500, with a total value of $2.8 million, were exported in 1965, mainly to Chile (32,336, worth $1.5 million), Peru (14,024, worth $327,000) and Uruguay (6,906, worth $297,000). Smaller consignments went to Asian, African and European countries and to the United States.

41. Other important exports were typewriters (9,237, worth $612,000, in 1964), nearly all of which went to Latin American countries, and $480,000 worth of office machines. Exports also included $158,000 worth of refrigerators and $55,000 worth of compressed-air tools; almost all the latter went to countries outside the region.

42. Another major sub-class of exports in 1965 was "Vehicles, parts and accessories", with a value of $7.3 million. The value of these items had fluctuated widely in the earlier years, from about $400,000 in 1960, with a sudden jump to $8 million in 1961 and to $8.7 million in 1962, down to little more than $5 million in 1963 and up again to $7.5 million in 1964.

43. On closer examination, the figures on this sub-class are less impressive, for they include each year exports of aircraft, worth $2.5 to $3.5 million, which are merely re-exports of previously imported machines. The 1965 figures, however, do not include such re-exports and can therefore be regarded as the most significant even though the 1961, 1962 and 1964 figures were greater.

44. The most noteworthy items in this sub-class are: (a) buses, which were exported in substantial numbers in 1961 and 1962, at a value of some $4 million a year (all to Latin American countries), showed a decline to $35,000 in 1963, and then recovered to $486,000 in 1964 and to $1.6 million in 1965; (b) ships and boats, which in 1964 included the delivery of a large vessel worth $2.4 million to Mexico and in 1965 the delivery of two vessels, worth $3.8 million, to that country; in previous years there had been practically no exports under this heading; (c) parts and accessories for motor cars, lorries and similar vehicles, on which figures are given in table 4 below.

Table 4

BRAZIL: EXPORTS OF PARTS AND REPLACEMENTS FOR MOTOR CARS, LORRIES AND SIMILAR VEHICLES

(Thousands of dollars)

Exported to	1960	1961	1962	1963	1964	1965
Total value	**104**	**1,241**	**315**	**492**	**1,339**	**1,204**
United States	64	1,119	35	194	737	645
Latin America	40	65	220	200	416	412
Other destinations	-	57	60	98	186	147

Source: Ministry of Finance, Economic and Financial Statistics Service, and Foreign Trade Department (CACEX) of the Bank of Brasil.

45. The series, as can be seen, is somewhat irregular, and probably depends largely on exports of vehicles.

46. The four items mentioned (including aircraft) accounted in 1965 for more than 90 per cent of exports in this sub-class, so that other, more sporadic exports account for a relatively small margin.

47. There was a steady increase in exports in the sub-class "Electrical machinery and apparatus, parts and accessories", whose value rose from about $200,000 in 1960 and 1961 to some $500,000 in 1962 and 1963, $1.7 million in 1964 and $4.4 million in 1965. These exports are made up of many items, including (a) communications apparatus ($1.2 million in 1965), especially diodes, triodes and other transisterized crystal valves ($27,000 to the Netherlands), receiving valves and tubes ($948,000, of which $882,000 went to Argentina and the remainder to Mexico, Colombia, Canada and the United States), and telephone receiving and transmitting equipment ($77,000, including $52,000 worth exported to the United States and the remainder to Argentina and Mexico); (b) portable or domestic electrical machinery and electro-mechanical tools ($112,000, almost all to Latin American countries); (c) electrical apparatus ($1.3 million) such as dry batteries ($608,000), special lamps ($94,000), magnets and electro-magnets ($295,000) and lamp parts ($246,000), also practically all for the Latin American region; and (d) other electrical machinery and apparatus ($1.4 million), including sprays ($210,000), resistances ($349,000) and condensers ($591,000).

48. Exports of transport and lifting machinery and equipment also showed a marked increase - from $293,000 in 1960 to $4.2 million in 1965. Prominent items exported in 1965 were petrol pumps worth $1.1 million ($739,000 to Argentina, $256,000 to the Federal Republic of Germany and the remainder to other Latin American countries), $1 million of motor graders (half to Argentina) and $796,000 of lifts ($453,000 to Chile, $256,000 to Uruguay).

49. Exports in the sub-class "Power generating machinery, parts and accessories" have also been increasing, reaching a value of $982,000 in 1964; this figure includes the shipment of two jet engines (previously imported) to Venezuela ($260,000). Parts and accessories for diesel and semi-diesel engines were also exported in small quantities, some to countries outside Latin America. In 1965 the value of exports in this sub-class fell to a little more than $600,000, including $328,000 worth of diesel engine parts and accessories but excluding re-exports of jet engines.

50. None of the export figures in the series for the sub-class "Agricultural machinery and implements (excluding tractors)" is of significant size. In 1965, however, the value of exports rose sharply to over $400,000, confirming the trend which had started the previous year when the figure came close to $100,000. Exports of machinery and equipment for the textile industry show a similar trend: up to 1963 the figures were insignificant, whereas they reached over $100,000 in 1964 and nearly $450,000 in 1965. A leading place in the export figures for the last two years is held by finishing machinery and looms, items whose manufacture is particularly well developed in Brazil.

51. Exports in the remaining sub-class - "Machinery and equipment for other industries", whose title is not very explicit and which must therefore be examined in more detail - showed a marked increase in 1965, reaching a value of nearly $4 million; these exports included lathes ($1.5 million) and cigarette-making, cigar-making and similar machinery ($1.2 million, including $460,000 to Argentina, $152,000 to Mexico, $129,000 to Venezuela, $119,000 to the United States, $98,000 to Chile, etc.). In addition, $259,000 of machinery for the food industry and $162,000 of machinery for the paper industry (preparation and finishing of wood pulp, paper and cardboard) were exported.

52. Not all these products were exported to Latin American countries. For instance, of a total of 814 lathes exported in 1965, at a value of $1.5 million, 113 went to the Netherlands and 16 to the United States, Italy, Australia and Canada. Shipments to Mexico (226), Chile (135), Argentina (110), Peru (109) and Bolivia (45) were more significant. Several African countries bought machinery for their food industry in Brazil, while machinery for the paper industry went to the United States and Latin American countries. The general picture is not one of regular export flows but of market exploration in all parts of the world.

53. Next comes the very heterogeneous class entitled "Manufactures classified by raw material", which produced the highest value of exports in 1965: $63 million, or nearly 40 per cent of all manufactures exported. It was only in 1964 and 1965 that this class took first place, for in 1962 and 1963 the export values were $5.4 million and $8.8 million respectively, representing only 11 per cent and 17 per cent of the total manufactures exported in those years. The 1964 and 1965 increases are attributable to massive exports of metals, the value of which varied between $1 and $3 million up to 1963, exceeded $17.2 million in 1964 and reached nearly $45 million

in 1965; this sub-class represented nearly 30 per cent of all manufactures exported in 1965. These exports included pig iron worth $3.6 million (including $1.4 million to Japan and $1.5 million to the United States); crude ferro-nickel worth $920,000 (nearly all to France); bars, slabs, rods, etc., of ordinary grade iron and steel, in the rough state, worth $15 million (including nearly $10 million to Argentina); universals and pieces of ordinary grade iron and steel worth $8.0 million (nearly all to Argentina); plates, sheets, wire, tubes, rails and railway track construction material and castings or forgings, unworked, of iron and steel, worth $9.7 million (the vast majority to Latin American countries).

54. Another noteworthy sub-class is that of textiles, which includes fabrics and related products (yarns are included in the "Processed raw materials" class and clothing in that of miscellaneous manufactures). The value of exports of these products was $3.8 million in 1960, it fell to less than $2 million in the two following years, but recovered to $3.6 million in 1963, and rose to nearly $7 million in 1964 and $11 million in 1965. The last figure includes almost $5 million of cotton fabrics, of which $3.9 million went to the United States, $388,000 to various African countries and $357,000 to other countries outside the Latin American region. Next come exports of sacking and jute fabrics to Argentina, worth $4.2 million; exports of special products of textile materials (including $991,000 of cordage and cables, 95 per cent of which went to the United States); and lastly, exports of woven goods for use on the beach and in sailing (canvas, sails, etc.) worth $600,000, of which $303,000 were shipped to the United States and $122,000 to Venezuela.

55. The third sub-class in this class, in order of export significance in 1965, is that of manufactures of rubber, ebonite and similar products. Exports of these items were negligible in the first two years under review but increased to a value of $274,000 in 1962, $428,000 in 1963 and $5.4 million in 1964, diminishing to $3.5 million in 1965. They include exports of tyres worth $3.4 million, almost all to Argentina: 36,500 tyres for lorries, buses and vans, worth $2 million altogether, at an average price of $57 each, and 91,500 motor car tyres worth $1.1 million, at an average price of about $12.

56. Exports of manufactures of metals and alloys earned $1.7 million, and exports of manufactures of non-metallic minerals $1.1 million (glass tubes worth $264,000 were exported to Latin American countries; porcelain or chinaware, worth $218,000, nearly all to the United States; and refractory materials worth $203,000 to Argentina). Wood and paper manufactures maintained their 1964 levels. The export figures for

manufactures of skins and leather form a very uneven series but exceeded $500,000 in 1964 owing to a delivery of $480,000 worth of soles, heels and other footwear parts to the USSR; no exports were recorded in 1965. Manufactures of precious and semi-precious stones are increasing but have not produced significant export figures; it can readily be imagined, however, that many are exported unrecorded, partly in tourist traffic. Exports in this sub-class earned $200,000 in 1965.

57. The last class remaining to be examined is that of miscellaneous manufactures; this covers products not included in the classes already examined, and represents a relatively modest total. The value of exports in this class was $750,000 in 1960 and, by uneven stages, reached more than $3 million in 1965. Individual export items include musical instruments (among these, $162,000 worth of guitars exported to the United States), sensitized photographic paper ($229,000 worth, all to Latin American countries), sanitary fixtures and fittings worth $126,000, shoes worth $133,000 (nearly all sent to the United States), galoshes worth $170,000 (to the United States), calibrated syringes worth $176,000, and various types of cigars with a total value of more than $300,000.

58. It is true that, when Brazilian exports are considered as a whole, certain primary commodities stand out in proportionate value; the figures just examined nevertheless reveal a wide diversity of manufactures. The rapid expansion of exports recorded up to 1965 demonstrates that a very large number of products can, under certain conditions, find outlets on the world market, both inside and outside the Latin American region.

59. With regard to the destination of exports, some information has already been given on individual products; more complete data appear in table 5 below.

60. This table shows how exports of manufactures were distributed amongst the various regions of the world in 1964 - the latest year for which figures are available and compares this distribution with that of total exports. The United States takes one-third of Brazil's total exports but less than a quarter of its exports of manufactures. The main products exported to the United States are chemicals, including menthol, followed by manufactures of base metals, mainly iron and steel. Exports of manufactures constitute 4.6 per cent of total exports to the United States, whereas they amount to 6.5 per cent of total exports to all destinations. The disparity is even more marked in the case of Western Europe: the proportion of exports of manufactures to total exports to that region - 3.1 per cent - is far below the

Table 5

BRAZIL: EXPORTS OF MANUFACTURES AND TOTAL EXPORTS BY DESTINATION, 1964

(Percentages of the total)

Product \ Destination	United States	Western Europe	Latin America	Rest of the World	Total
A. Exports of manufactured products					
Class 2. Processed or unprocessed raw materials	22.2	34.8	42.3	0.7	100
1. Dressed skins and leather	80.6	18.2	0.6	0.6	100
2. Synthetic rubber	-	-	100.0	-	100
3. Wood, worked	41.1	30.6	25.5	2.8	100
4. Chemical and mechanical wood pulp	-	-	100.0	-	100
5. Precious and semi-precious stones, cut	44.9	28.2	4.3	22.6	100
6. Wool tops	4.1	94.3	1.6	-	100
7. Textile yarns	75.8	16.4	7.5	0.3	100
8. Artificial and synthetic fibres and yarns	-	-	83.0	17.0	
9. Animal fats	-	-	-	-	-
Class 4. Food and beverages	30.9	55.0	4.0	10.1	100
10. Beverages	3.4	25.7	55.7	15.2	100
11. Canned meat and related products	32.0	62.3	1.2	4.5	100
12. Canned fish and related products	-	-	74.9	25.1	100
13. Processed milk	-	-	-	-	-
14. Powdered eggs	-	100.0	-	-	100
15. Canned fruit	38.5	12.3	15.1	34.1	100
16. Caramels	-	-	100.0	-	100
17. Preparations of coffee	-	-	-	100.0	100
18. Preparations of cocoa	-	-	100.0	-	100
19. Extracts and essences	-	-	-	-	-
20. Canned vegetables	14.6	74.5	10.5	0.4	100

Table 5 (continued)

Product \ Destination	United States	Western Europe	Latin America	Rest of the World	Total
Class 5. Chemicals and chemical products	59.1	17.0	11.0	12.9	100
21. Inorganic chemical elements and products	12.7	21.8	20.0	45.5	100
22. Organic chemical products	77.2	8.9	3.9	10.0	100
23. Pharmaceutical and medicinal products	20.7	11.7	48.9	18.7	100
24. Tanning and dyeing extracts	2.2	13.7	55.3	28.8	100
25. Essential oils and aromatic products, perfumes, soaps and other toilet articles	27.2	49.4	3.8	19.6	100
26. Fertilizers, manufactured	-	-	100.0	-	100
27. Plastic materials and synthetic resins	-	-	98.2	1.8	100
28. Miscellaneous products of the chemical industry	66.1	28.2	5.0	0.7	100
Class 6. Machinery and vehicles, parts and accessories	4.8	8.1	83.7	3.4	100
29. Electrical machinery and apparatus, parts and accessories	0.7	10.9	87.2	1.2	100
30. Power generating machinery	1.2	15.4	67.4	16.0	100
31. Agricultural machinery and implements (excluding tractors)	-	-	100.0	-	100
32. Transport and lifting machinery and equipment	1.3	-	98.7	-	100
33. Machinery and equipment for the textile industry	-	13.9	86.1	-	100
34. Machinery and equipment for other industries	2.4	11.3	78.7	7.6	100
35. Other machinery and equipment	0.7	4.1	93.7	1.5	100
36. Vehicles, parts and accessories	10.0	8.9	78.7	2.4	100

Table 5 (continued)

Product \ Destination	United States	Western Europe	Latin America	Rest of the World	Total
Class 7. Manufactures classified by raw material	12.0	10.9	63.7	13.4	100
37. Of skins and leather	0.3	4.1	-	95.6	100
38. Of rubber, ebonite and similar products	-	-	100.0	-	100
39. Of wood and bark	79.6	9.8	9.7	0.9	100
40. Of paper and paper articles	-	-	100.0	-	100
41. Of non-metallic minerals	17.4	2.4	80.0	0.2	100
42. Of precious and semi-precious minerals	13.6	70.7	2.6	13.1	100
43. Of base metals	13.0	7.9	59.9	19.2	100
44. Of metal	6.8	15.3	77.6	0.3	100
45. Of textiles	12.8	27.1	52.9	7.2	100
Class 8. Miscellaneous manufactures	18.7	11.2	64.3	5.8	100
46. Sanitary and lighting fixtures and fittings	16.3	6.3	68.9	8.5	100
47. Furniture and accessories	7.6	0.5	91.9	-	100
48. Travel goods, handbags and similar articles	61.4	13.3	25.3	-	100
49. Clothing	2.6	13.8	71.3	12.3	100
50. Footwear	87.6	0.4	9.7	2.3	100
51. Professional and scientific apparatus, instruments and other articles	0.3	12.3	86.4	1.0	100
52. Office and stationery supplies	-	0.5	99.5	-	100
53. Small merchandise and articles for personal use	7.1	12.8	70.5	9.6	100
54. Cutlery	-	6.5	93.5	-	100
55. Other manufactures	18.2	14.1	60.0	7.7	100
Total manufactured products	23.3	20.1	47.3	9.3	100
B. Total exports	33.2	42.0	9.7	15.1	100
C. Exports of manufactures as a percentage of total exports	4.6	3.1	31.5	4.0	6.5

Source: Anuario de Comercio Exterior, 1964.

overall figure of 6.5 per cent. The exports in question consist mainly of food products, particularly canned meat, followed by wool tops and essential oils and aromatic products, manufactures of base metals, etc. The total value of manufactures exported to Europe was nearly $19 million (20 per cent of the value of all manufactures), while total exports to Europe were worth $600 million (42 per cent of total exports).

61. Latin America was the main buyer of Brazilian manufactures in 1964. It purchased nearly $44 million worth of these goods, which account for almost one-third of all exports to that destination (value $139 million). The $44 million represents almost half the total value of industrial products exported ($93 million). The main items were iron and steel products, worth more than $10 million, nearly all of which went to Argentina; vehicles, parts and accessories (nearly $6 million), manufactures of rubber and ebonite ($5.3 million), etc.

62. The rest of the world takes less than 10 per cent of the manufactures exported (some $9 million), as compared with some 15 per cent of total exports ($215 million). In other terms, the ratio between the two is only 4 per cent, so that the situation is very similar to that of exports to the United States.

63. Export conditions depend partly on the domestic market situation and partly on the country's export policy; it is difficult to forecast variations in the former factor - and more specifically in the level of domestic demand - because they depend on a number of general economic considerations. The dependence of export prospects on the demand of the domestic market is not really a rigid relationship in the sense that only the products left over after satisfying domestic consumption can be earmarked for export. On the contrary, if the terms offered on the foreign market were more attractive than those available at home, nothing - not even the sacrifice of home consumption - would stand in the way of exports. However, no such situation has yet arisen, and producers prefer to supply the home market. In Brazil it is considered to be export policy's function to induce producers to export, and its success in doing so will be proportionate to the direct and indirect export incentives offered them.

64. In view of the present situation in Brazil and the relatively short period covered by this study, the limits of potential exports for individual classes of products will be determined in relation to what can be achieved through intensive utilization of available facilities, without prejudice to supplies for the home

NOTE

The UNCTAD secretariat, in co-operation with the regional economic commissions, is carrying out a number of country studies in Latin America, Africa and Asia, to determine the immediate and future prospects for increasing the exports of manufactures and semi-manufactures from selected developing countries.

The object of these studies is not to present an exhaustive analysis of the export prospects and problems of the countries concerned, but rather to draw attention to the scope for increased exports and to the measures which might be taken in this respect. In the case of developing countries which do not possess any significant export industries, an attempt has been made to estimate what would be the export prospects if export-oriented industries were established as an integral part of the industrial development of these countries.

These studies should, therefore, be regarded as only part of the examination of the possibilities of building up and expanding the exports of manufactures and semi-manufactures from the developing countries.

The attached study (document TD/B/C.2/35) analyses the short and medium-term prospects for exports of manufactures and semi-manufactures from Brazil. A summary and the conclusions reached in the study are contained in paragraphs 1 to 16 below.

market. The results will thus represent a basic minimum attainable without further investment and without sacrificing the home market. However, the best results would be achieved by promoting exports of [illegible] products which offer the greatest advantages in competition, for in these cases less incentives would be needed.

II. INSTITUTIONAL FACTORS AFFECTING THE EXPORT OF MANUFACTURES

65. This chapter attempts a brief survey of the various forms of official action taken to promote the export of manufactures, comments on the effectiveness of that action and draws attention to certain points at which more needs to be done.

66. The field work for this study was carried out in Brazil at a time when export promotion was receiving the close attention of Government agencies, as witness to the drastic changes then being proposed in that connexion.

67. At a later date, on 10 June 1966, Act No.5025 was passed, setting up the National Council of Foreign Trade (CONCEX) and re-organising much of the legal and administrative system governing export operations. The functions of the new Council include laying down the main lines of foreign trade policy, adopting measures to control foreign trade operations when the national interest so requires, issuing basic policy directives on export finance and establishing standards, criteria and administrative procedures connected with foreign trade, and especially with exports. The Council also has certain powers of co-ordination between the various instruments of foreign trade: customs policy on transport, on ports and harbours, on insurance, etc. Responsibilities hitherto divided among a large number of different bodies have thus been concentrated in a single organization. CONCEX will be presided over by the Minister of Industry and Trade, and the Foreign Trade Department of the Bank of Brazil (CACEX) will act as its secretariat and as the main executive organ applying the decisions of CONCEX at the national level.

68. The Act setting up CONCEX also contains provisions on fiscal, financial and other questions, which are discussed below together with the other provisions in force.

(a) [illegible]

(i) Under Instruction No.279, dated 10 September 1964, of the Monetary and Credit Administration (SUMOC), new duly-licensed, industrial enterprises exporting manufactures are entitled to take up to 30 per cent of the foreign exchange earned by their exports and spend it on imports of raw materials, parts or components, machinery and equipment, provided that similar items are not manufactured in Brazil and that the

goods imported are for the exporting concerns own use. The same 50 per cent can also be used to meet financial commitments abroad, provided that they are duly registered in the manner required by law. For the imports referred to in this Instruction, and in drawback operations, exemption from exchange cover may be granted, and special quotas of foreign exchange may be granted in anticipation of the export of manufactures.

(ii) Instruction No.293 of 29 March 1965, also issued by the former SUMOC, increases from 50 to 100 per cent the proportion of foreign exchange earned by exports of manufactures which is available for use by enterprises fulfilling the conditions laid down in Inter-ministerial Instruction No. 71 of 23 February 1965, and grants them exemption from financial charges and compulsory deposit.

(iii) Instruction No. 284 of 16 December 1964, issued by the former SUMOC, authorizes the export on consignment of the manufactured products regulated by CACEX Notice No.156.

(b) Tax exemption

(i) Total or partial exemption from liability to import taxes or refund of those already paid on operations carried out under the drawback scheme (Decree No.53967 of 16 June 1964).

(ii) In drawback operations, exemption from import taxes is accompanied by exemption from excise, customs clearance tax, merchant marine renewal tax - which becomes payable on the freightage of the goods imported - harbour restoration tax and, in general, all taxes which do not represent payment for services rendered (Act No.5025,article 55).

(iii) Abolition of all taxes, duties, quotas, fees and contributions payable specifically on any exported goods, except the export tax (Act No.5025, articles 54 and 56).

(iv) The possibility that industrial products may also be exempted from export tax in specific cases to be determined later (Act No.5072 of 12 August 1966, article 3).

(v) Authorisation, up to and including the financial year 1971, for enterprises to deduct from profits liable to income tax the amount representing exports of manufactures (Act No.5025, article 57).

(vi) Refund of the amount of the single taxes on fuels and lubricants and on electric energy which form part of the cost of mining industry products whose sale abroad it is desirable to promote (Act No.5025, article 59).

(vii) Exemption from stamp duty on exchange operations connected with the export of manufactures (Act No.4505 of 30 November 1964, article 28).

(viii) Exemption from turnover tax on exported industrial products. This rule applies in the States of São Paulo, Minas Gerais, Rio Grande do Sul, Pernambuco and Guanabara.

(c) Financing

(i) Apart from setting up CONCEX and referring to various other aspects of export activities, the above-mentioned Act No.5025 of 10 June 1966 also deals with the provision of resources to finance exports or production for export by industrial enterprises wishing to start selling abroad or to increase their sales abroad.

For this purpose, the Export Finance Fund (FINEX) has been set up; its resources will consist of budget appropriations, loans, donations and other funds which will certainly enable it to provide considerable sums for the purposes in view.

Regulations to give effect to the relevant provisions of the Act were issued in CONCEX Resolution No. 3 of 17 September 1966. This Resolution, which supersedes Instructions Nos. 215, 250 and 278 of the former SUMOC, provides that CACEX may use the resources of FINEX to finance, for a long or medium term, exports of capital goods or durable consumer goods for which payment is deferred. It may advance up to 80 per cent of the value of the invoice - which may include the cost of insurance and freightage - and the remaining 20 per cent must be paid by the importer before shipment.

The financing provided by CACEX may, if the authorities consider it desirable, extend to transactions for which payment is to be made in money of account or non-convertible currency.

In the case of operations covering a period of more than one year and where it considers that satisfactory guarantees are provided, CACEX may absolve the exporter from any share in the financing and assume responsibility for all of it. The financing of exports for which payment is due within 180 days remains the responsibility of the Foreign Trade Department of the Bank of Brasil.

(ii) The Enterprise Capital Democratisation Fund (FUNDECE) grants loans for use as working capital to enterprises which - besides meeting other priority conditions - produce goods for export.

(iii) In addition, the rules of the General Credit Office explicitly provide for the advance of working capital required to produce goods for export.

(d) Investment

(i) A number of decrees provide incentives for investment in specific sectors through Executive Groups operating in the Ministry of Industry and Trade which, in considering applications, take into account the proportion of investment that is to go into production for export.

(ii) The Investments Commission of the Ministry of Finance (Resolution No. 10) authorizes, as a matter of priority for economic development, the re-investment of excess profits in the production of manufactures for export.

(e) Credit insurance

Under Act No.4678 of 16 August 1965, an Export Credit Insurance Scheme was set up in Brazil to cover exports of goods and services on credit against commercial, political and special risks.

(f) Simplification of administrative formalities

(i) Chapter III of Act No.5025, which deals with standards, formalities and procedures, maintains the obligation on exporters to register with CACEX and confirms the terms of Act No.4557 of 10 December 1964.

It is further provided that CONCEX shall be responsible for all measures designed to simplify and reduce administrative requirements and formalities in connexion with export operations.

The obligation on exporters to register with CACEX does not apply in cases where the items to be exported are samples, small consignments or goods intended for the consumption or use of Brazilian organizations or missions abroad, or in other similar cases.

(ii) Abolition of the "visa" on the export permit (Act No.4595 of 31 December 1964, article 51).

(iii) Amalgamation of the export permit with the bill of lading (Decree No.55,864 of 25 March 1965).

(iv) Standardization and simplification of forms for the collection of the taxes imposed by various authorities on exports of farm produce (Ministry of Agriculture Instruction No.958 of 23 November 1964).

(g) Other incentives

69. Decree No.53,982 of 25 June 1964 provides that, in purchases of crude petroleum and its derivatives by PETROBRAS, preference shall be given, without prejudice to competitive prices, to contracts under which the enterprise supplying

the petroleum undertakes to purchase exported Brazilian products worth at least 20 per cent of the value of imports under the contract.

70. The number and scope of the provisions mentioned show that considerable legislative efforts have been made to promote exports in recent years. The passage of Act No.5025, which has been discussed at some length in the foregoing paragraphs, marked to some extent the culmination of those efforts.

71. Considerable progress has been made in removing obstacles to exports, for the previous system of regulations was so complicated that it discouraged any attempt to export manufactures. The new provisions appear to cover every means of facilitating exports and to solve many problems. However, the previous situation was so complicated that, despite the new facilities and inducements offered, it cannot be said that exporters are now ideally treated.

72. With the passage of the Act setting up CONCEX and generally regulating foreign trade activities, authority to lay down the general lines of foreign trade policy has been concentrated in the Council; the aim remains that of expanding Brazilian exports. Formerly, this authority was divided among nearly thirty Federal agencies, which had to apply and manipulate close to 200 enactments of various types, not counting State and municipal regulations; this gives a measure of the progress made by the concentration of authority as described above and the re-organization of rules and regulations under Act No.5025.

73. As regards the financing of exports, the main limitations were, on the one hand, a shortage of resources for the purpose and, on the other, potential exporters' ignorance of the sources of finance.

74. The first limitation - the shortage of resources - still exists, but the problem is being tackled resolutely and effectively, as witness the recent establishment of the Export Finance Fund (FINEX) under Act No.5025. With regard to the second limitation, ignorance among potential exporters of manufactures with regard to sources of finance seems to have diminished; this is borne out by the increase in the number of transactions financed[3/] and in the number of products for which finance was requested.

3/ Twice as many transactions were financed in the first six months of 1966 as in the corresponding period of 1965.

75. Generally speaking, the legislation in force is fairly satisfactory and so are the facilities for investment, including those for investment in small industries working for export (e.g. credits from the National Bank for Economic Development (BNDE)).

76. Next comes the question of determining the rate of exchange. When the survey was made the rate of exchange was altered in Brazil from 1,850 to 2,200 cruzeires to the dollar. This measure seems to have been intended to encourage exports, since steps were also taken to curb the rising costs of imported inputs (abolition of advance deposits). But any advantages afforded by these measures are unlikely to last, for they will be wiped out as production costs rise. Without going into detail on this subject, which is bound up with the country's general economic policy, we would point out that the ability of an industry to compete in the international market depends essentially on the balance between the rate of exchange and internal costs. That balance, together with prompt and active measures, would best ensure sustained and systematic efforts to introduce and establish Brazilian products on the international market.

77. There is another general factor that may have an important effect: namely, the vast campaign being waged in Brazil to popularize experts of manufactures. This campaign is sponsored by the Foreign Trade Department of the Bank of Brazil (CACEX) and all publicity media are being used, including slogans like "Exports are the answer" and "Exporting is easy", advertising in the streets, newspapers and periodicals, and informative articles describing export operations and offering assistance and technical advice.

78. All these activities help to create a favourable climate for export operations, and special efforts are being made to interest small and medium-sized enterprises whose horizons are usually bounded by the home market. The promotion campaign is not focussed on selected products but seeks to inculcate in the public an attitude of mind that will lead to practical action provided that parallel measures have been taken on the economic and operational side.

79. Nevertheless, there are still sizable obstacles to be overcome before government action can be completely successful. These will be examined in more detail in Chapter IV. Suffice it to mention here the lack of an adequate commercial infrastructure abroad; the limited possibilities of finding the resources to build one, especially for small and medium-sized enterprises; and the "closed market" policies of foreign enterprises, which are applied through agreements between the parent company and its subsidiaries.

III. Survey of certain products and their export potential

80. In the last few months of 1965 a survey was made in Brazil on the export prospects for a list of manufactures. The list was made up mainly by selecting, from each of the classes or sub-classes of products into which exports are divided, those products which, in view of the characteristics of the industries producing them, the technological features of the products etc., were considered to be representative of broader sectors. The results of the survey of the products selected were supplemented by appraisals - mainly qualitative, and based on information obtained from industrial organizations, banks, etc., and in general on whatever relevant material was available - of those products or groups of products which had not been analysed individually.

81. On the basis of all this material, estimates of export prospects were made as will be seen in the next chapter when table 8 is under discussion.

82. As might be expected, not all the 55 sub-classes of articles shown in table 3 are equally well represented; it is a commonplace that in investigations of this type, for which only a short time is available, the degree of accessibility of information is almost bound to be among the factors determining the selection of products. This limitation, then, accounts for the disparity in degree of representation among the various sub-classes and, in some cases, in the degree of detail in which the products are discussed.

83. Lastly this chapter will show, for each of the products specified, the limits of export potential based on the productive capacity available and, above all, on the competitive capacity of prices. For example, once the acceptability of a product on the international market has been determined so far as cost is concerned, the volume and value of exports attainable will be assessed on the assumption that plants will be intensively utilized. Such estimates are subject to many reservations. In the first place, cost depends on many variables, (level of demand, output, the exchange rate etc.). Suffice it to mention that during the survey (on 16 November 1965) the value of the dollar rose from 1,850 to 2,200 cruzeiros, and that for this reason alone certain products not previously competitive in price became so overnight. To avoid such complications, the results of the survey are based on the assumption that the exchange rate is geared to fluctuations in domestic costs; this could be achieved by various means such as automatic adjustment of the exchange rate (which is easier once inflation has been curbed), special payments for exports to offset such adjustments, and preferences for importing countries.

84. The other possible obstacles in the way of full utilization of export capacity have been neither ignored nor underestimated; mention will be made in every case of the problems awaiting solution.

Lathes and other machine tools

85. The machine-tool industry is just emerging from a period of heavy demand created by the establishment of the motor vehicle, spare parts and components industry and the development of other engineering activities as described in the ECLA study on the subject.[4/] The industry supplied a high proportion of national demand - about 60 per cent by a number of machines, but a much lower percentage in terms of weight. In other words, it supplied most of the light-weight machines required, the heavier machines being imported. The industry has thus developed a degree of specialization which, used intensively, would provide appreciable quantities of products for export, perhaps enough to offset purchases of the machinery that has to be imported.

86. If we take lathes as representative machinery in this category, it should be noted that Brazil's industries are now producing 1 - 1½ shifts a day and that very few enterprises are systematically working for export; 525 lathes worth less than $1 million in all, were exported in 1964.

87. Lathe production covers a wide range of weights from 1 to 63 tons; the unit value of the machines varies not only with their weight but also with many other technical and qualitative features. Labour intensity varies in inverse proportion to the value of the lathe, from 50 per cent for the cheaper machines (worth about $3,000 each) to some 30 per cent for those worth $6,000, which may be taken as representative of the dearest lathes if the still more expensive ones that are produced from time to time are ignored. The variable incidence of this factor, together with other technical factors, makes the lighter-weight lathes (1 to 5 tons and 1,000 to 3,000 mm between points) the more competitive; they are quoted at prices between $1.4 and $2 per kg. In this category mention should be made of the lightest lathes (1 to 2 tons), which are priced at less than $1.7 per kg.

88. The national output of lathes may be estimated at about 5,000 units, so that exports represent a tenth of the total. If the utilization of productive capacity was increased to 2 shifts a day and there was no change in home demand, there would be an exportable surplus of more than 3,000 units, worth $6 million.

4/ For fuller details see The Manufacture of Industrial Machinery and Equipment in Latin America, II. The machine-tools industry in Brazil: United Nations Publication Sales No. 63.II.G.4.

89. Although price is one of the decisive factors in export operations it is also necessary to consider quality, or rather the limitations associated with production characteristics. Quality presents no problem within the limits of the standardized products, for the lathes have proved themselves against foreign competition in Brazil and in earlier exports. However, as regards working characteristics, the lathes (and machine tools in general) produced in Brazil have certain limitations which restrict sales prospects in the developed countries' markets to certain categories of consumers (maintenance and general services, schools etc.). Nevertheless a significant number of industrial lathes have recently been sold to industrialized countries. There is undoubtedly great scope for Brazilian lathes in the markets of the developing countries.

90. The above-mentioned limit of productive capacity does not, of course, necessarily represent the true prospects for exports because, quite apart from the problem of price and quality, most enterprises would face a problem in marketing their products abroad - a tremendously difficult problem, perhaps impossible for the smaller firms to solve individually.

Products of the heavy engineering industry

91. The Brazilian industry manufacturing capital equipment has appreciable experience in various production lines and forms a nucleus of establishments equipped with sizeable production plants. Its growth (at a rate of 8 per cent a year between 1960 and 1965) has been the result of a largely spontaneous programme designed to meet home demand, sometimes carried out in financial and commercial partnership with very reputable international concerns.

92. The industry's level of aggregate output (worth $210 million in 1964), its well-established specialization and its high flexibility in production afford a basis for an objective estimate of its potential for export to Latin American and other markets.

93. The first step in estimating that potential is to consider those products that are economically competitive because of a combination of inputs or resources whose local cost presents advantages in relation to the international market. The investigation cannot, of course, be based rigidly on this approach, for there are other factors, some transitory and some more lasting, which may operate in favour of a more vigorous export policy; among these is the desirability of a high plant utilization co-efficient, especially in periods of reduced home demand.

94. Despite the considerable cost of social services in Brazil and the fact that labour productivity is lower there than in the industrialized countries, one of Brazil's relative advantages in the world market lies in real labour costs; hence, as pointed out in the ECLA document on basic equipment in Brazil[5/] in connexion with the price level of Brazilian manufactures, the more labour-intensive products should be the more competitive. To this factor may be added the cost of certain raw materials, such as forgings, and the production designs for certain products.

95. These factors, together with other components of manufacturing cost, are used as points of reference in the following review of certain categories of products.

(a) Equipment for the oil-refining industry

96. Brazil has no manufacturers specializing exclusively in the production of oil-refining plant. Industries with adequate production facilities and technical know-how backed by foreign engineering experience turn to the manufacture of such plant when it is in demand, while at the same time producing plant (complete or, more often, parts under sub-contract) for other industries.

97. Items of oil-refining equipment which can be produced competitively include boiler-house components such as storage tanks, pressure vessels, direct firing vertical furnaces and large-diameter welded tubes, as well as metal structures, box-type direct-firing horizontal furnaces, etc.

98. For precision engineering products (pumps and compressors, steam turbines, overhead travelling crane parts, lifts, etc.) and specialized products (instruments, valves, ejectors and special filters) there are, generally speaking, no pronounced advantages, and their prices may sometimes be higher than those quoted in the international market.

99. For other items or products for the oil-refining industry, such as electric motors, transformers, generators, electric wires and cables, there are as a rule no advantages in competition, primarily because of the high cost of imported raw materials (mainly copper and silicon steel), and in some cases also owing to the scale of production.

5/ See The Manufacture of Industrial Machinery and Equipment in Latin America, I. Basic Equipment in Brazil. United Nations Publication. Sales No: 63.II.G.2.

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MEASURES FOR THE PROMOTION, EXPANSION AND DIVERSIFICATION OF EXPORTS OF MANUFACTURES AND SEMI-MANUFACTURES FROM DEVELOPING COUNTRIES; CO-OPERATION WITH THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION (UNIDO) AIMED AT THE ESTABLISHMENT AND EXPANSION OF EXPORT-ORIENTED INDUSTRIES IN DEVELOPING COUNTRIES; OTHER FORMS OF ECONOMIC, INDUSTRIAL AND TECHNICAL CO-OPERATION

Short and medium-term prospects for export of manufactures from selected developing countries

- BRAZIL -

Note by the UNCTAD secretariat

This study analyses the short and medium-term prospects for exports of manufactures and semi-manufactures from Brazil; it is one of a series of such studies relating to other developing countries in Latin America, Africa and Asia, and was completed in November 1966.

These studies have been undertaken in conformity with the programme of work of the Committee on Manufactures, which states that the secretariat of UNCTAD should take appropriate steps to prepare an exhaustive study of the world demand for, and supply of, manufactured and semi-manufactured articles of actual or potential export interest to developing countries and of relevant trends of international trade in such articles.1/

1/ For the programme of work, see report of the Committee on Manufactures on the first part of its first session (30 May-20 August 1966), printed in Official Records of the Trade and Development Board, Seventh Session, Supplement No. 3 (TD/B/C.2/7/Rev.1 - E/4191/Rev.1), pp. 4 and 5.

100. Of the groups of products mentioned, Brazilian industry could offer those in the first group at prices 10-20 per cent less than those normally quoted on the international market; prices for products in the second group would equal the international ones; those for the remainder would be higher.

101. With the capacity now available, Brazil could easily produce, over and above home market needs, some 50,000 tons of products in the first group. Priced at about $0.35 to $0.40 per kg. the exportable surplus would be worth between $17.5 million and $20 million.

(b) Electric power generating equipment

102. This equipment comprises hydraulic turbines, generators, transformers of various types, and accessories. Due to the high cost of the raw materials (mainly silicon steel and electrolytic copper) it is not, as a rule, possible to compete with world market prices, at any rate so far as standard or mass-produced models are concerned. In the case of certain very heavy products of high labour intensity, Brazilian industry may have a competitive advantage over other countries; this applies, for example, to 100,000 kVA generators, for which Brazilian prices are about 10 per cent less than those quoted in the United States. However, Japanese and European (German and Swedish) production is even more competitive, with prices some 35 per cent less than Brazil's.

103. There is capacity available for the production of this equipment, although the physical limits of such capacity are difficult to define because, here again, the enterprises concerned are able to switch over to other production. However, assuming that demand exists, the additional output attainable to meet it can be estimated at some $10 million worth per year (total weight 5,000-10,000 tons, depending on the type of product).

(c) Equipment for cement production

104. The following components of cement-producing plant can be manufactured at prices which offer competitive advantages on the international market: metal tanks and silos, fans, sieves, overhead travelling cranes, crushers and grinders. More complex equipment such as rotary kilns and reducing furnaces or other multi-purpose, hence mass-produced, items such as pumps and compressors, electric motors and generators, would have difficulty in competing. The products in the first group are priced between $0.70 and $1 per kg. according to nature and size.

105. The capacity available for potential exports of these products depends on the development of home demand; according to the forecasts of home consumption up to 1970, national output will be insufficient. Nevertheless, since there are times when demand stagnates and since the heavy engineering industry has some flexibility, it would seem safe enough to estimate the average production capacity available for export at about 5,000 tons, worth between $3.5 million and $5 million.

(d) Equipment for the iron and steel industry

106. Applied to equipment for the iron and steel industry, the foregoing considerations indicate that tanks, welded tubes and light and heavy structures could face international competition. Their price, at around $0.50 per kg. is comparable to those quoted in the United States. The productive capacity available for exports can be estimated at more than 20,000 tons ($10 million).

(e) Equipment for the pulp and paper industry

107. The most competitive items are wood storage and processing equipment; water supply and distribution equipment; pipes and connexions; recausticising equipment; digesters; cast-iron stock pumps; and items with similar characteristics.

108. The capacity available for manufacturing such equipment is very much under-used, working about one shift in 1965; it may be estimated at some 5,000 tons a year, worth approximately $5 million. However, other special machines of more complicated design, which would present competitive advantages of labour-intensity (pulp-preparation, paper-making and finishing machines) should also be taken into account. Unit prices for these items range from $2 to $2.5 per kg. Output of these machines could easily be brought up to 2,000 - 3,000 tons a year, worth between $4 million and $7.5 million.

109. With regard to potential exports of heavy engineering products generally, it will be noted that the various products have been considered in terms of a classification by use, the object being to ascertain the prospects for Brazilian industry in, for example, the execution of projects of international scope. In reality the limits shown for output of certain products may be mutually exclusive; in other words, given flexibility in the productive operations of the enterprises concerned, it may be possible, within certain limits, to produce a certain maximum quantity of product A or a certain quantity of product B, but not the full quantity of both products at the same time.

110. In addition to price and productive capacity, most of these products are affected by the following factors:

(i) Transport: Since capital equipment is usually very large and the competitive advantage lies in the bigger products (tanks, structures, tube and pipe systems, etc.), transport costs are an unfavourable factor, especially for shipments overseas. Freight rates are not, perhaps so high as to cancel out the competitive advantages in the f.o.b. price, but the subject calls for careful study in view of its possible repercussions.

(ii) Financing of customers: Countries installing basic industries often obtain financial aid on condition that they buy their equipment in the country supplying the aid. This procedure is a form of discrimination inimical to export opportunities.

(iii) Relations with international enterprises: Many Brazilian enterprises producing capital equipment are linked with international enterprises, but the latter have not made it a major principle of policy to seise the competitive advantages of Brazilian production. The usual attitude is that the function of Brazilian factories is to supply the home market or, at most, adjacent countries. This limitation arises out of the special conditions of the market, and perhaps explains why plant is not fully used and why costs are higher than they would be if the scale of production was more in balance with productive capacity.

111. Relations between Latin American subsidiaries and their parent enterprises will be examined in another report on that specific subject; suffice it to mention here that this problem vitally affects the export of capital equipment manufactured in Brazil.

Railway rolling stock

112. Brazilian industry has a long tradition of railway rolling stock manufacture. In this connexion special attention was devoted to the study of goods wagons; these are made up of several components, and there is a potential surplus of output in each case, varying in volume from one component to another. The industry should be able to increase production by some 2,000 wagons, worth about $24 million at a price of approximately $12,000 each. This price would be very competitive on the international market, for the United States manufacturers ask $15,000 to $16,000 each for their wagons; however, their specifications are somewhat different on occasion.

113. This type of production is subject to various requirements with regard to delivery, planning, financing, etc., and for this reason price cannot be considered the sole deciding factor in the industry's competitive position.

Iron and steel products

114. One of the most dynamic industrial sectors in the economic development of Brazil is undoubtedly the iron and steel industry, which has been expanding rapidly in recent years. Although substantial exports of iron and steel products have been recorded recently - almost $14 million worth in 1964 and about $40 million worth in 1965 - the possibility of maintaining a steady flow of such exports must be examined very carefully, for it is particularly difficult to estimate the movement of home demand for these products.

115. Per capita consumption of steel is considerably less in Brazil than in Argentina, Chile or Venezuela. This suggests that, although the Brazilian iron and steel industry is carrying out a plan to expand output, much if not all of the increase could be absorbed by the domestic market as more of the population became consumers of steel. It is consequently difficult to determine how much a year the Brazilian steel industry will be able to export.

116. According to a recent study made by a foreign firm of consultants, considerable exportable surpluses can be expected during the next few years. The size of these exportable surpluses is shown in table 6 which also shows the forecasts made in the new National Iron and Steel Plan.

Table 6

BRAZIL: EXPECTED CAPACITY, PRODUCTION AND CONSUMPTION OF IRON AND STEEL PRODUCTS FOR THE PERIOD 1967 to 1972

(Thousands of tons)

Products: / Year	Rolled products			Seamless tubes
	Flat	Non-flat	Total	
1967				
Installed capacity	1,820	2,000	3,820	150
80% of installed capacity	1,460	1,600	3,060	120
Consumption	1,385	1,515	2,900	61
Exportable surplus	75	85	160	59
1968				
Installed capacity	1,935	2,035	3,970	150
90% of installed capacity	1,740	1,832	3,572	135
Consumption	1,508	1,664	3,172	61
Exportable surplus	232	168	400	74
1969				
Installed capacity	2,130	2,300	4,430	150
90% of installed capacity	1,920	2,070	3,990	135
Consumption	1,645	1,830	3,475	61
Exportable surplus	275	240	515	74
1970				
Installed capacity	2,470	2,375	4,845	150
90% of installed capacity	2,220	2,140	4,360	135
Consumption	1,795	2,005	3,800	61
Exportable surplus	425	135	560	74
1972				
Installed capacity	2,890	2,810	5,700	150
90% of installed capacity	2,600	2,530	5,130	135
Consumption	2,120	2,275	4,395	61
Exportable surplus	480	255	735	74

Source: Booz-Allen and Hamilton, Int. Inc. and BANDEIRANTE/BNDE National Iron and Steel Plan.

117. The above estimates are, of course, subject to the fulfilment of certain conditions, of which the most important are that installed capacity should increase to the level indicated for each year and that the plant utilization factor should attain 80 per cent in 1967 and 90 per cent in the subsequent years.

118. The value of the exportable surplus would then amount to some $30 million or $35 million in 1967 and would exceed $90 million by 1970-1971. The exportable surpluses shown should probably be regarded as somewhat optimistic, for the growth of home demand has been rather conservatively estimated.

119. It was thought advisable to confine the field study to two products whose export prospects depend not on fluctuations in home demand, but on the characteristics of the products themselves: thick steel plates (280 cm wide) and charcoal pig. The only Latin American countries producing the former are Brazil and Mexico; they are used in shipyards and in the construction of oil tanks; and it would therefore seem reasonable to suppose that a considerable part of the region - and especially the southern extremity - would be supplied from Brazil. At present the capacity for rolling these plates is about 300,000 tons a year, but it is of course possible to produce smaller sheets in the same rolling mill. The capacity of the mill could easily be increased to 900,000 tons a year.

120. In 1964, 12,471 tons worth $1,352,201 in all, or $108 per ton, were exported out of a total production of 82,000 tons. The home market took only about 60,000 tons owing to a fall in activity at the shipyards, whose recovery would soon dispel the stagnation in this branch of steel production. Even then there would be a wide margin of production capacity for heavy plate.

121. Charcoal pig is another of Brazil's specialities. It is used in the manufacture of parts for the engineering industry and in steel production. Charcoal pig, carefully produced to certain specifications, is a raw material sought after by manufacturers of special steels and also by those who make castings with unusual characteristics. With its superior quality it fetches a higher price than ordinary pig iron made with metallurgical coke.

122. World production of high-grade charcoal pig is very small in relation to the demand because its manufacture involves special requirements such as the use of high-quality raw materials.

123. Conditions in Brazil are very favourable for charcoal pig production. Apart from charcoal, whose production has to be planned, the raw materials are abundant, of

high quality and found close together. Hence Brazil could offer the world market two types of pig-iron; high-quality pig for special purposes and ordinary pig for foundries.

124. At the end of 1958 Brazil had an installed capacity of 300,000 tons a year for the production of charcoal-pig in plants that did nothing else. The expansion of the motor vehicle industry in the ensuing years created an additional demand that aroused interest in pig-iron production among many industrialists; as a result, more than forty new enterprises were established for the purpose in 1959 alone. Most of these new plants were equipped with a medium-capacity blast furnace, to produce some 600 tons a month.

125. The entirely unplanned increase in production achieved by private enterprise augmented installed capacity to about 850,000 tons a year; this is far in excess of home demand, so that large stocks accumulated, compelling some plants to suspend and others to reduce production.

126. Moreover, the pressure of demand for pig-iron induced the new enterprises to be producing it with the most elementary basic equipment, in the hope of improving and supplementing their plant out of income from sales. The lack of outlets for their production has forced most of them to make do with their existing equipment and to do without that required for manufacturing high-grade pig of uniform composition. They lack laboratories at which to analyze the raw materials and the pig iron, batchers for charging the furnaces, precision instruments for measuring the volume, pressure and temperature of the air injected into the furnaces, etc.

127. The enterprises established in 1959, plus those set up before and after that year, add up to more than sixty. The process involves a series of operations, such as the mining and transport of raw materials, charcoal-burning and re-afforestation, and employs a large labour force. Some estimates[6/] put the labour force required to keep the industry working at full capacity, i.e. producing 850,000 tons of pig-iron a year, at more than 24,000.

128. Existing consumption of this product in Brazil is estimated at 350,000 tons a year; in other words, there is an unused capacity of 500,000 tons a year for which there is no immediate outlet on the home market. It would therefore be desirable to find a stable foreign market which would give a high return in foreign currency.

6/ See A industria de ferro gusa em Minas Gerais, by Osanan Jarbas Loureiro.

The price of high-quality pig-iron now stands at $60-70 a ton, and the potential value of exports is between $30 million and $35 million.

Ships and boats

129. The shipbuilding industry is well established in Brazil. The many shipyards in existence - two of which are much larger than the others - are capable of an annual output of 200,000 gross registered tons, working a single shift. They are also able to undertake repairs on Brazilian shipping and on foreign vessels calling at Brazilian ports.

130. Originally, for lack of technical experience and owing to the smallness of the market, the enterprises supplying certain items to the shipyards (mainly diesel engines and thick steel plates) took little interest in this type of order and prices were accordingly rather high: this factor put up the cost of the final product. However, the shipbuilding industry has prospered and the ancillary industries have gradually expanded, bringing the prices of the items they supply to a level somewhat closer to one at which the principal industry could meet international competition more confidently. Among the obstacles still to be overcome are the problem of multiple taxation - which occurs also in other horizontally structured industries - and the persistently high prices of steel, diesel engines and certain other components of lesser importance. However, the expansion of markets is gradually reducing the margin by which these prices exceed international prices, and the shipbuilding industry is benefiting from the incentives provided by the Merchant Marine Fund[1/] for the export of ships.

131. By 1965 two large vessels of 12,000 tons each and two smaller vessels of 3,000 tons each had been exported. These transactions and the award by a British firm, to one of the large Brazilian shipyards, of an order for a large floating dock suggest that the industry will thrive in the coming years.

132. On the basis of the existing installed capacity and the unused surplus, the feasible level of potential exports can be estimated at roughly $30 million a year.

1/ For further details, see Indústria Mecânica e Elétrica: Diagnóstico Preliminar, Ministry of Planning and Economic Co-ordination, Bureau of Applied Economic Research (EPEA), pp. 48 et seq; much of the analysis of the shipbuilding industry is based on this publication.

Vehicles and parts

133. The Brazilian motor vehicle industry had made great progress in recent years. Under the plan launched in 1956, Brazil has replaced nearly all imports by domestically produced vehicles; it now has a dozen large production and assembly plants and over 2,000 small and medium-sized factories producing parts and replacements. Motor vehicle production reached a peak of 191,194 vehicles in 1962[8/]; for various reasons, however, domestic market prices are much higher than international prices and the export prospects are poor.

134. The sole exceptions are monobloc buses and jeeps, which are produced cheaply enough to have brought in some large export orders already and to other prospects for expansion. In 1964 forty buses were exported at an average price of $12,000; in 1962, 314 were exported at an average price of $13,300. With intensive use of productive capacity 4,000 vehicles, worth a total of $5 million, could be manufactured for export.

135. Jeeps, at an average export price of $1,800, could be marketed abroad, and there is productive capacity available. Taking jeeps together with other small trucks of similar characteristics, it is estimated that an additional 2,000 vehicles a year could be produced, with a value of $3.5 million.

136. Even for such vehicles it would be optimistic to think of markets outside Latin America; but vehicle components, parts and accessories could be sold overseas. Some international concerns use Brazilian factories to make parts which supplement the output of their home plants or of other subsidiaries; there will certainly be scope for more arrangements of this kind once suitable terms are agreed upon. Furthermore many Brazilian enterprises producing under licence to foreign firms, parts and accessories for which there is obviously a world market possess unused capacity. Lastly there are many Brazilian producers of parts and accessories, some of whom belong to an association and who are also in a position to supply a foreign market, if one can be found, with products of satisfactory quality at prices that could be made sufficiently competitive.

137. The market for parts and accessories falls into two main categories: replacement parts for old vehicles (i.e. discontinued models) and parts for current models. The producers interviewed vary in their attitude to the problem of placing

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8/ This figure dropped to 174,126 in 1963 and rose again to 183,735 in 1964. In 1964 output comprised 97,768 private cars, 48,490 vans and small buses, 21,023 medium-sized lorries, 12,951 jeep-type utility vehicles and 3,503 heavy lorries and buses.

these products on the markets of the industrialized countries; some take no interest in the replacement market because it means short runs, while others consider it the most promising market for the Brazilian industry. The variety of their views shows clearly that there are a number of ways in which home demand could be supplemented by exporting a wide range of products in different lines. What is plainly needed is action by the international concerns or by representative associations, whether in the importing countries or among Brazilian exporters, to set up systematic flows of trade.

138. With co-ordinated marketing it would be possible to put the available technical resources to use, and it will be an easy matter to export some $10-15 million worth a year.

Tractors and road-making equipment

139. The tractor-manufacturing industry of Brazil consists of some six concerns with a combined capacity, on single shift, estimated at 21,000 units. Production in 1964 amounted to 11,500 units.

140. Production of wheeled tractors started in Brazil at the beginning of the present decade, and is still expanding. Potential export capacity can be estimated at 10,000-15,000 units; assuming that these are small tractors, they will be worth $20-30 million. Generally speaking, production costs make it possible to break into the foreign market. The cost of manufacturing a tractor is much lower than in Argentina and comparable to that of manufacturing a tractor of equal horsepower in the United States, but it cannot compete with that in Europe (Italy and the United Kingdom).

141. There is no great capacity for manufacturing caterpillar tractors and other road-building and road-maintenance equipment, and any export possibilities would depend on a shortage of home demand. At the present level of production, however, owing to the high cost of raw materials, prices are out of touch with the international market, being 20-30 per cent higher than current rates. To make exports possible, the level of output would have to be raised considerably; and the market would in any case be Latin America, for shipments overseas, especially of bulky machinery, would have to contend with high freight rates.

142. If the price obstacle could be overcome, there should be enough capacity to produce some $30 million worth of this machinery for the foreign market: among other items, 200 lifting trucks, at $8,000-10,000 each; 200 mechanical shovels at $20,000-25,000 each; and excavators and transmission systems of various types worth a total of $10 million.

This directive was further amplified at the Committee's resumed first session, when the secretariat was requested to study the scope for the expansion of imports of manufactures and semi-manufactures from the developing to the developed countries and the measures to be taken by the developing countries for increasing such exports.[1/]

In addition, the Committee agreed that for the diversification of exports of the developing countries, it would be helpful to have information on the manufactures and semi-manufactures which could be produced by the developing countries and for which there is sufficient demand in world markets to warrant the establishment of export-oriented industries, due regard also being paid to the conditions of supply of the said products.[2/]

Lastly, it should be noted that this project gained the support of the second meeting at ministerial level of the Ad Hoc Committee on Latin American Co-ordination (CECLA), held at Buenos Aires in March 1966 (resolution 2/66).

In compliance with these directives, the Manufactures Division, in co-operation with the regional economic commissions, is carrying out a number of country studies to determine the immediate and future prospects for increasing the exports of manufactures and semi-manufactures from selected developing countries. The object of these studies is not, however, to present an exhaustive analysis of the export prospects and problems of the countries concerned, but rather to draw attention to the scope for increased exports and to the measures which might be taken in this respect. In the case of developing countries which do not possess any significant export industries, an attempt has been made to estimate what would be the export prospects if export-oriented industries were established as an integral part of the industrial development of these countries. These studies should, therefore, be regarded as only part of the examination of the possibilities of building up and expanding the exports of manufactures and semi-manufactures from the developing countries. A summary, together with the conclusions reached in the study, are contained in paragraphs 1 - 16 below.

1/ See report of the Committee on Manufactures on its resumed first session (28 February - 9 March 1966) (TD/B/69 - TD/B/C.2/34), para. 9.

2/ Ibid, para. 29.

Bearings

143. The prospects for exporting bearings seem poor owing to the high level of production costs imposed by the under-utilization of plant - a factor aggravated in recent years by reduced demand and the establishment of new enterprises - and by the cost of the raw material (special steels, so far imported). Moreover it is hard to see how production could be integrated in the area of the Latin American Free Trade Association (LAFTA), for there are similar production lines in several countries.

144. Production in Brazil is limited to a few types of bearings made to meet the demand of the industries manufacturing motor vehicles, domestic electrical appliances and, to a small extent, railway rolling stock. These products, which are usually mass-produced, do not benefit from the competitive advantages offered by low labour costs. Furthermore the manufacture of special products which would benefit from those advantages would entail large-scale additional investment; however, considering the economics of the world-wide enterprises already producing these articles in other parts of the world, this would not be justified.

Cigarette-making machines

145. The Brazilian enterprise that produces cigarette-making machines and similar equipment is a subsidiary of an international concern which has other subsidiaries in various parts of the world. The home market is not big enough to absorb the output of the enterprise, and 80 per cent of it is exported to places all over the world. The enterprise works full time, obtaining almost all its supplies on the home market.

146. By comparison with the value of these machines ($26,000 to $28,000 each), transport costs are fairly low: it costs 3-5 per cent of their value to ship them across the Atlantic. This enables the enterprise to compete with the other subsidiaries and even with the parent firm, since it enjoys extensive freedom to trade independently of other units in the same industrial complex. The success achieved with exports proves that the Brazilian plant is competitive provided that the equipment is used intensively, and there are indications that it may be expanded with a view to increasing exports.

Sewing machines

147. There are in Brazil four enterprises with a total production capacity of 700,000 machines a year; there is a potential market for 500,000 machines a year, and the real market fluctuates with the demand. The highest export figure achieved

during the period under review was recorded in 1964: 45,000 machines worth $2.1 million. It is estimated that productive capacity would be sufficient for four times this volume of exports, with a total value of about $8 million.

148. The enterprises produce various types of machines (pedal, manual, electric, semi-industrial and industrial), but those with the best prospects for export are ordinary non-electric domestic machines, which also formed the core of exports in previous years. These fetch an average price of about $50 each, which is competitive enough on the international market and much more competitive than the prices charged by other countries in Latin America where, owing to the small scale of manufacture, costs are twice or three times as high as in Brazil. Hence the most obvious outlets for exports would be in Latin America but for the existence of very severe protection; there is every likelihood that this will become even more severe upon the establishment of new plants in countries which have hitherto been Brazil's best customers (e.g. Chile, which imported 50 per cent of Brazil's sewing machine exports in 1964).

149. In the world market there is very keen competition from Japan and other Asian countries which export heavily to the United States and Europe. The prices quoted by the Japanese industry are 50 per cent less than Brazil's. Africa and certain areas in Asia might also provide worth-while markets, but as a rule this would entail a concerted plan of action between parent and subsidiary enterprises on how to share the market. One pronounced difficulty is that all the plants in operation in developing countries produce similar, if not identical, models of sewing machines. That leaves the theoretical possibility of supplying the marginal market (i.e. that for the cheaper models) in the industrialised countries. This too would depend on agreement with the parent firms, for such penetration would involve a degree of competition within enterprises.

Office equipment

150. This group includes typewriters, their parts and accessories, and adding and calculating machines, but excludes electronic equipment. These products, although mass-produced, are labour-intensive. The main plants belong to international enterprises; in view of the existing competitive advantages, and of the even greater potential advantages which could be realized through intensive utilization of plant, these enterprises, given suitable conditions, would certainly be disposed to launch systematic export drives. If they did so, it is estimated that the export potential would be in the region of $4 million worth.

Electronic data processing and computing equipment

151. There is an international enterprise operating in Brazil, and the subsidiary was questioned about a plan of complementary operations involving divison of labour and market integration. Two types of machines are produced in Brazil and a third type is to be produced if certain parts are available. Other countries produce complementary equipment, and there is thus a world-wide trading network which allows of adequate specialization and production scales. According to the figures for recent years, the enterprise exports 65-70 per cent by value of its output. It also does a great deal of importing under licence and therefore in variable quantities, but usually more than it exports.

152. Exports are, in fact, tied to imports. but they could be increased, especially to Latin American countries, if tariff protection was less severe. There seems little prospect of exporting to other continents except in a sporadic fashion. Production costs at the Brazilian plant are competitive enough in the world market, but an important factor in the assignment of orders to subsidiaries by the parent firm is ability to deliver. In the final analysis, the distribution of work among the subsidiaries depends, perhaps, more on balanced utilization of the plants than on actual competitive advantages. It should not be forgotten that these producers are faced with a very dynamic demand and operate in what is virtually a monopoly situation.

Tyres

153. The problem in assessing potential exports of tyres lies, not in the availability of productive capacity[9/] or of technological knowledge but in the price factor. Since the labour component of the product is very small (on average only about 5 per cent), the biggest item of cost is the raw material.

154. Moreover the selling prices of tyres on the home market are fixed by the Government. and this is no incentive to the industry in general. A combination seems possible with Argentina, through the international enterprises which have plants in both countries; under such an arrangement, Brazil would be assigned the production of motor car tyres incorporating a high proportion of plastics, which are more competitive in Brazil than in Argentina.

155. It is estimated that, with the existing plant, the productive capacity available for export could easily reach a value of $10-15 million - in other words, double or treble the 1964 export figures. There are no problems of quality, as the

9/ Production in 1964: 4,331,358 tyres and 3,157,284 inner tubes.

tyres manufactured for home use are designed to withstand more wear and tear than in the United States and Europe.

Chemical and pharmaceutical products

156. Of the many products covered by this heading, those with the best export prospects are the products obtained by processing the country's own basic raw materials. These include ethyl alcohol, caffeine, menthol, peppermint oil, rosewood oil, soaps and detergents, liver extracts, tanning extracts and the like.

157. Closer examination reveals further prospects for more highly processed products; availability of the raw material is still the vital factor, but in these cases it must undergo a more refined and complex industrial process. Such products include, among pharmaceuticals, vitamin B-12, bulk penicillin, tetracycline and antibiotic serums and, among organic chemicals, oxalic acid, vinyl acetate and heterocyclic compounds; very few inorganic products are likely to do well in the export trade.

158. With regard to potential exports of products in the first group, the problem is one of marketing rather than of production. To encourage such flows it is necessary to find new customers, to give the products a stronger position in the world market and to promote their use, perhaps in competition with synthetic substitutes. Generally speaking, the limits of productive capacity are ample and, given the demand, it should be an easy matter to double or treble the existing exports. This, particularly in the case of certain specific products, might entail rationalizing the production or processing of the raw material, but the assurance of a regular flow of exports would encourage steps in that direction.

159. The more highly processed products are subject to other limiting factors besides those of the market. For pharmaceutical and medicinal products there are problems of price, but even here it should be possible to double exports, which reached a total value of $1.2 million in 1964.

160. The greatest limitation on organic products is home demand, and there seems no prospect of any great expansion of exports.

Textiles

161. In theory, conditions in the cotton industry are ideal for the production of exportable manufactures. The raw material - cotton - is a traditional product of Brazil; the industrial equipment available to process it should also help in making

prices competitive. With a few exceptions, however, exports, whether of yarns or of fabrics, fall far short of the maximum attainable. Exports of yarns and fabrics, which have never yet exceeded some $3 million in value, could easily reach $10 million if there were more exporters, for those now exporting lack an ample supply of idle capacity.

162. There is a need both to rationalize production and to organize markets; it is common knowledge that international competition in cotton manufactures is very keen, and that a sound plan of action is needed in order to break into the market, all the more so since the countries most closely involved are the European countries and the United States.

163. The purpose of rationalizing production is to make Brazilian manufactures more competitive on the world market. So far some 20 per cent of the industry can be considered capable of producing at prices competitive with European prices;[10/] but throughout the rest of the industry, despite the low cost of labour, the cost of production is at least 30 to 40 per cent greater, within a very wide range of variation.

164. The structural changes which most of the industry must make in order to increase productivity and reduce costs are a matter of constant concern to the Government authorities; the problems involved are so complex that it would be rash to predict their solution in the near future.

165. As regards wool products, the high exports of combed wool (tops) in 1964 must be considered merely sporadic and exceptional, for the plant capacity available in Brazil is no more than is normally needed to supply the spinning mills (indeed, most of the enterprises are integrated) and Brazil lacks the specialisation and well-established tradition of Argentina and Uruguay.

166. Hard-fibre manufactures must be considered separately; this applies particularly to jute. Climatic conditions in Brazil, especially in the Amazon basin, are ideal for jute production; there are few other countries in the world where this is so. By encouraging jute cultivation, Brazil was able to cease importing this material (whether raw or processed) in 1950 and began to export it; as already noted in chapter I, the value of exports was almost $4 million in 1964, representing some 5,000 tons of manufactures.

10/ See Roger Nacur, L'exportation sur le marché mondial: une perspective pour le développement de l'industrie textile latino-américaine (E/CN.12/700/Add.2/Rev.1), table 1, February 1966.

167. Taking into account existing and projected plants and the expected crops, the quantity of jute products available for export in the near future may be estimated at 20,000 tons, worth about $20 million.

168. A very important potential market is Argentina, which now imports between 40,000 and 45,000 tons of these manufactures, mainly from the Indian sub-continent.

169. International competition is very keen because the participants include large-scale producers of this fibre (India, Pakistan, the People's Republic of China and Thailand) and some of them also have a manufacturing industry. Some of the countries that import the raw material - such as the United Kingdom, France, the Federal Republic of Germany, Italy and Belgium - also manufacture it.

Worked wood

170. The products considered include such items as compensates, coreboard, celotex and the like but not sawn or roughly dressed boards. The latter are the backbone of the export trade, earning $46 million in 1964, but they are only slightly processed and it will be more pertinent to consider the prospects for somewhat more highly processed products.

171. The Brazilian industry is highly specialized and has excellent and abundant home-produced raw material at its disposal. In addition world demand is very high and, since Brazilian products are available at competitive prices, the export trade with all parts of the world is well developed. Productive capacity is intensively used; some enterprises work three shifts, even on Sundays. Plans to expand production are under study and should produce a substantial increase in export capacity.

172. It is estimated that, if these plans are successful, export capacity should be about $10-15 million. Lowering tariff barriers in the industrialized countries, especially the United Kingdom and the Common Market countries, would provide strong encouragement for increased exports to them.

Soluble coffee

173. This product also has the obvious advantage of abundant raw material, with no problem of quantity. Several new plants have been set up to prepare soluble coffee and one recently began exporting to the United States. Prices, which are controlled even for export, are tied to coffee prices (it takes 3 kg. of coffee beans to make 1 kg. of soluble coffee), and with full use of the available productive capacity it would be possible to export 15,000-20,000 tons a year, worth $38-50 million.

174. One of the largest enterprises producing soluble coffee has set about installing processing plants in the consumer countries. So far as this enterprise is concerned, the manufacture of the product in Brazil will depend on the provision of incentives for the parent firm to concentrate production at home and to export from there to the world market.

Products prepared from cocoa

175. Cocoa is another product favoured by domestic availability of the raw material; with the existing productive capacity, now only partly used, it should be feasible to export a total of 8,000-10,000 tons a year at an average price of $2 per kg. representing a total value of $16-20 million. In theory the most easily attainable markets are those of Latin America, which - except for Argentina, where there is domestic manufacture - normally import such products from the United States.

176. So far as prices are concerned, the European and United States markets are also open to competition but, since their quality requirements differ from those of the Latin American markets, new lines would have to be developed.

177. A prerequisite for increased exports of these products is encouragement for Brazilian enterprises in their efforts to break into the international market. These enterprises, which are of fairly recent origin, are still in the stage of building up the home market. In certain cases, too, it is foreseeable that an agreement will have to be reached between the subsidiaries and their parent firms abroad on what should be produced to supplement supplies to the European and United States markets.

Canned meat

178. The prospects for increasing exports of canned meat depend on solving the problems of animal husbandry which have long been under discussion in Brazil: how to increase the livestock population, how to rationalise transport to the canning factories and how to make efficient use of the by-products (leather, fat, etc.). It would be optimistic to predict the speedy solution of these problems or, by that token, any rapid increase in exports.

Fruit juices canned and fruit

179. There are good prospects for the export of orange juice and the juice of other fruits, especially tropical fruits, and several enterprises have been set up for this specific purpose. The raw materials are available at competitive prices. It is not too optimistic to forecast that exports will soon double the total exported in 1964, thus reaching a value of $3 million, and will increase still further later on.

Alcoholic beverages

180. The Brazilian alcoholic beverage industry is developing fast; test sales of wines, brandy and champagne have already proved successful in certain markets. Since there is idle capacity at the plants, prospects are good, and it is estimated that exports of these items can quickly be increased to some $4 million worth. First among the most promising openings is the export of brandy to the United States.

Musical instruments

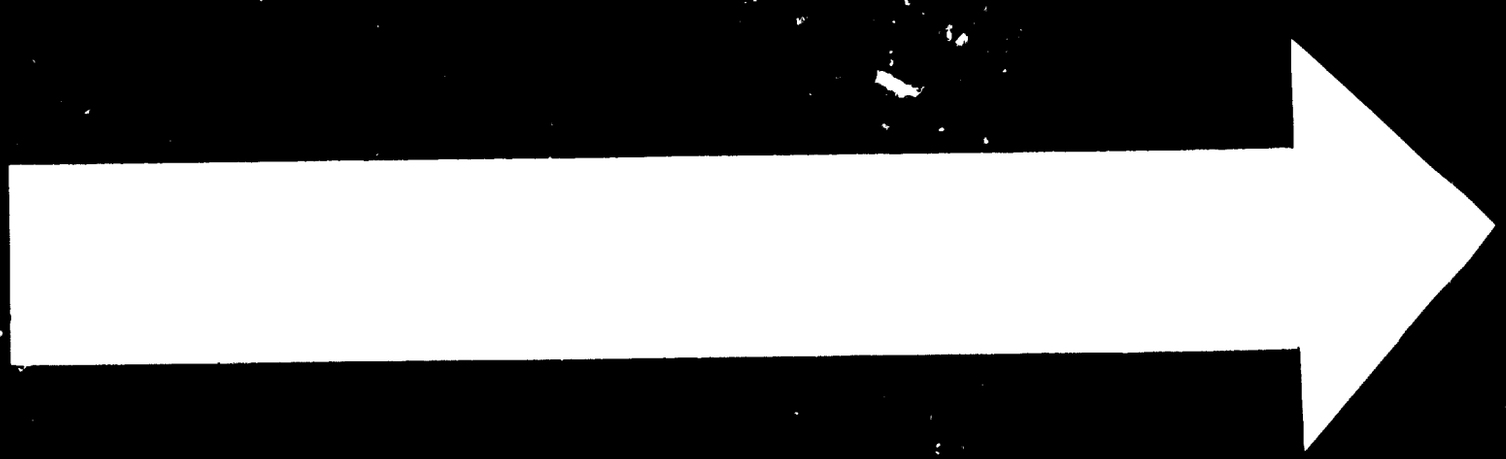
181. Several Brazilian enterprises produce various kinds of musical instruments (guitars, accordions, percussion instruments and pianos), of acknowledged quality, at highly competitive prices. Trial exports have already shown that the prospects are good, but the enterprises are usually on a small scale and will have to be given help in marketing. The most promising market is the United States.

Toys

182. Despite strong competition on the international markets, there would seem to be some scope for increasing exports of certain simple types of toys. If exporters were given suitable assistance in securing foreign markets, especially in Latin America, the level of such exports could be raised to about $1 million.

Gems

183. Brazil has abundant reserves of precious and semi-precious stones, and a well-established tradition in gem cutting and jewellery manufacture. In view of the relatively high unit value of these products, exports are potentially substantial and might attain a value of, say, $10 million a year; but the trade would have to be encouraged by appropriate measures. This, however, does not seem to be an easy matter, as the market for such products, especially precious stones, might be very sensitive to fluctuations in supply to meet a rather inelastic demand.



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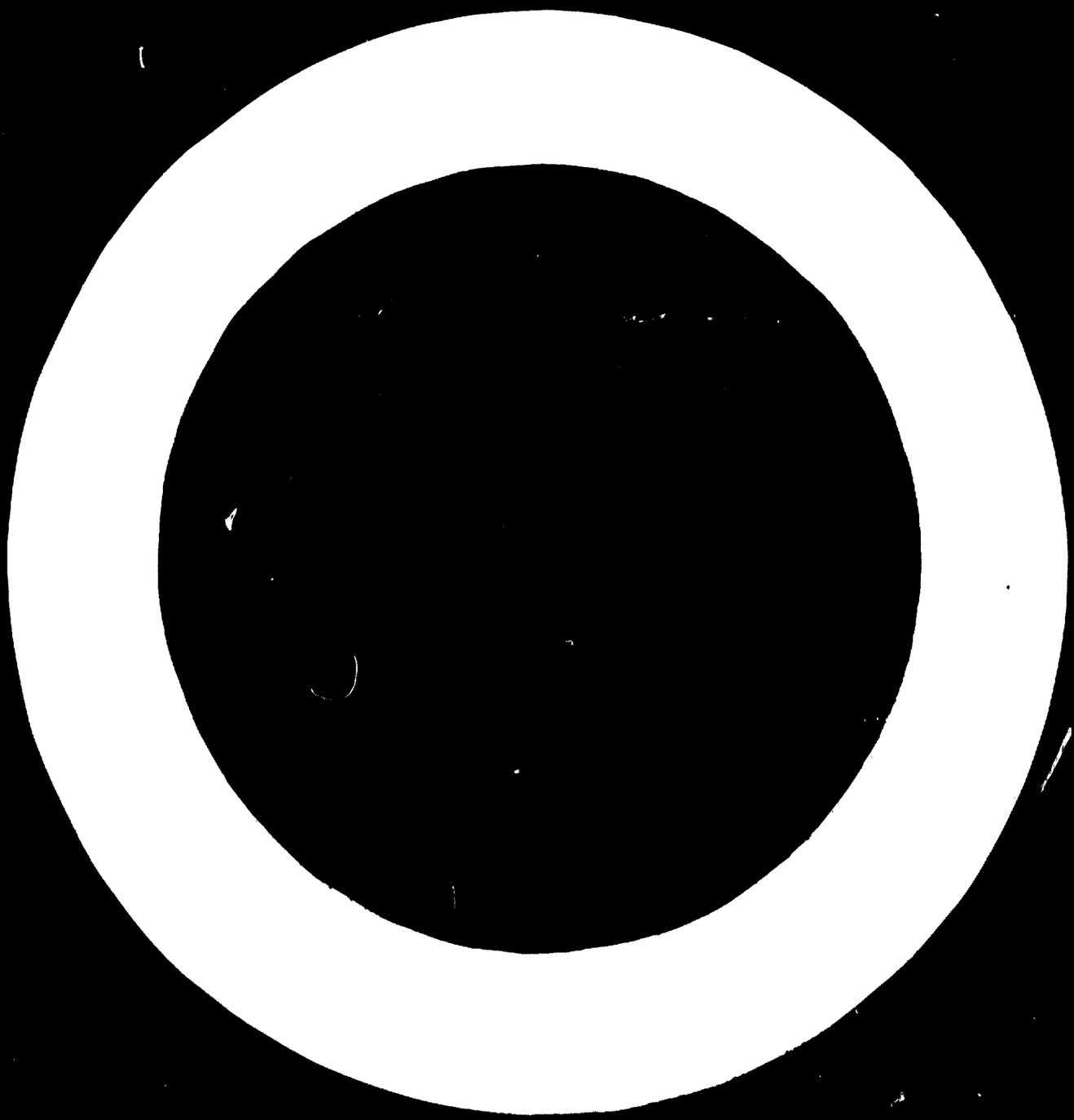

SUMMARY AND CONCLUSIONS OF JOINT UNCTAD/ECLA STUDY ON BRAZIL

1. This study is a part of a series of investigations carried out jointly by ECLA and UNCTAD for the purpose of estimating the prospects for certain Latin American countries with regard to the short-term export potential of manufactured products without the help of additional investment in productive capacity, and considered mainly from the standpoint of supply.

2. The essential aim of this report is to throw light on certain aspects of Brazil's capacity to export manufactures; it does not purport to suggest a programme for the attainment of specific export targets. Such a programme could not be prepared solely from technical data of the type analyzed in this report - surplus capacity, availability of raw materials, costs, prices, etc. That would, in practice, entail making a choice among several possible courses, and such a choice can be made only on the basis of government decisions concerning the industrial and general economic development of the country. It is hoped, however, that the method employed and the general and particular considerations put forward regarding the problem may prove useful in formulating an export development programme.

3. The estimates which are given in the last chapter of the document - and which were based on the analysis of a necessarily limited list of products - should be taken merely as orders of magnitude of Brazil's export potential on the assumption that a series of conditions and requirements - such as an abundant supply of raw materials and an improvement in industrial working conditions and in certain institutional factors - will be met.

4. The analysis deals mainly with supply conditions and thus takes into account the productive capacity available and certain other factors - prices, the availability of raw materials, marketing procedures and so forth - which give an idea of the capacity of the products in question to compete on the world market. Although this study does not deal explicitly with certain important specific problems relating to demand - market studies, tariffs and other barriers of equivalent effect such as quantitative restrictions, and so forth - demand conditions have in some measure been taken into account, particularly in the analysis of products. In fact, one of the criteria for the inclusion of a product in the list of potentially exportable items was the potential competitiveness of its price on the world market, to the limited

extent to which this factor could be assessed from the data available. The report thus gives some idea of the possible reaction of the world market to the supply of Brazilian manufactures, based on the price at which they would be thrown into competition with others. As to the scale of supply, it was not felt that placement would present any major problem in view of the small volume involved in proportion to world demand as a whole.

5. The competitiveness of the products in question has been analyzed in terms of the international market rather than of the more favourable market of the countries members of the Latin American Free Trade Association (LAFTA); however, the estimates refer to total export capacity regardless of destination.

6. At a later stage of the analysis it may be necessary to examine the behaviour of the world market, but that will have to be done in terms of the various national markets. Such an examination is beyond the aims of the present study which, as already stated, takes into account only the order of magnitude of world demand as compared with the supply of Brazilian manufactures. In breaking down that total demand into its national components, consideration would have to be given to the favourable and unfavourable factors affecting the various national markets.

7. The studies of this series, are uniform in structure: a first chapter devoted to statistics of past performance is followed by an examination of the institutional factors affecting exports, while the third chapter sets out the results of a direct survey of certain products, carried out in late 1965, indicating export opportunities and the prerequisites for making use of them. The last chapter uses the results of the survey and other more general information (from official sources or from manufacturers' and exporters' associations) to produce preliminary short-term (one to two years) and medium-term (four to five years) projections of the exports that could be achieved assuming the fulfilment of certain general and particular conditions, which are spelled out in each case.

8. Although it is desirable for purpose of comparison to keep the reports uniform in method and structure, this does not preclude the possibility of some differences in the surveys, the analyses of past performance and the conclusions drawn.

9. There are, in particular, divergencies due to the continuing variation from country to country in the classification of foreign trade statistics, which make it necessary to reclassify the data on manufactures, with some minor disadvantages. The United Nations is preparing a draft statistical classification of items of

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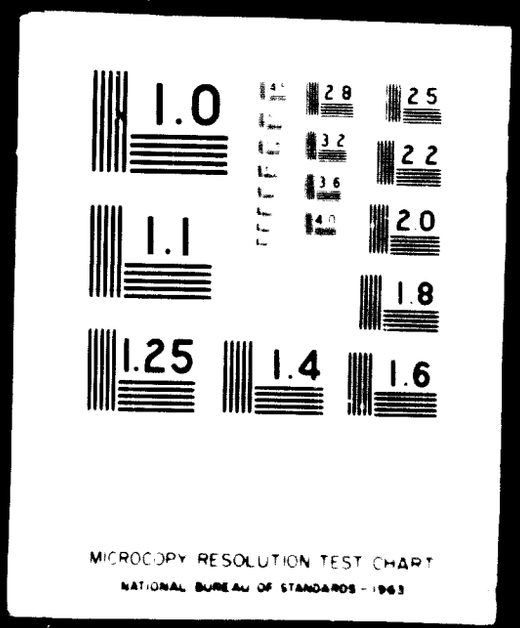
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NATIONAL BUREAU OF STANDARDS - 1963

200. The differences in the projections between hypotheses A and B, which amount to some $60 million in the short term and some $75 million in the medium term, may be taken as indicating the order of magnitude of the effect of home demand on the level of potential exports.

201. In the first case, in which the point of departure is the maximum annual exports in the five-year period considered, it was found that, out of 55 sub-classes of products exported, 32 reached their maximum in 1964, while 5 peaked in 1963, 5 more in 1962, 7 in 1961 and 6 in 1960. The year 1964, therefore, seems to predominate, especially in the "machinery and vehicles" class, that of manufactures classified by raw material and that of miscellaneous manufactures. In other classes the indication of the peak export year varies considerably, to the point that in class 4 (Foods and beverages) 1964 is not mentioned, since in reality (see table 3) its best export year was 1961, as it was for chemical products.

202. Basing projections on these peak figures means admitting the possibility that the conditions of the recent past may continue or recur in the years to come, whether as regards home demand (the commonest cause of a rise in exports) or as regards possible outlets for Brazilian products abroad.

203. The second case, which takes as its point of departure the average exports for the last three years[11/] can be justified on the grounds that over a long period it may be assumed that home demand would, on average, be satisfied and the potential margins available for future exports would automatically allow for the satisfaction of home consumption.

204. It may be objected that the application of the same percentage increases to both hypotheses is a questionable proceeding, and that the absolute increases might be the same in both cases since they depend essentially on a potential expansion of production estimated at the levels last reached with the resources available. This objection is not entirely valid, however, because production possibilities may vary

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11/ It was thought inadvisable to work on a five-year average (which would give lower results), as that would disregard or minimize the structural changes made.

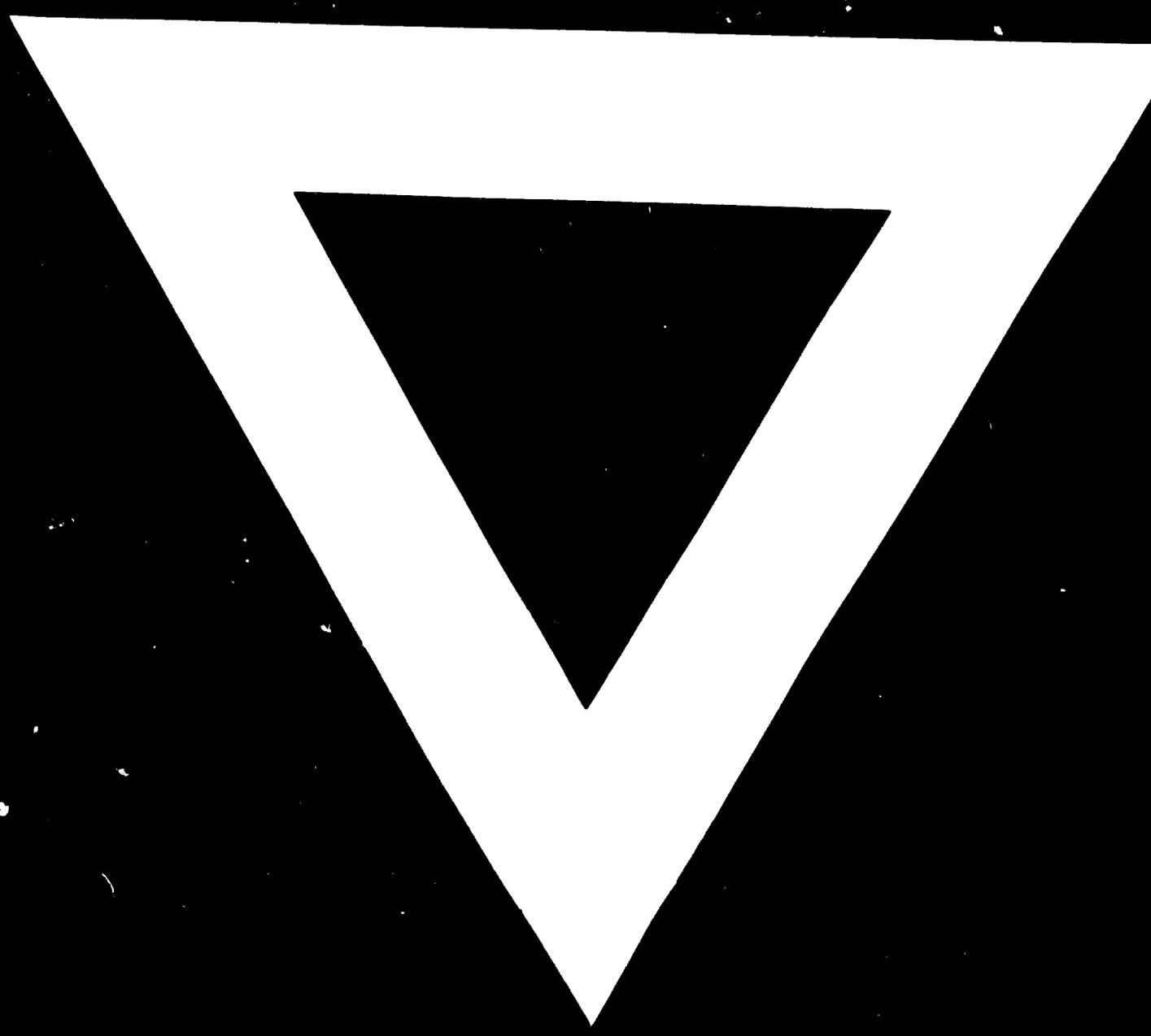
according to whether the export trade becomes a continuous regular flow or develops sporadically or haphazardly.12/

205. The limits indicated under the two hypotheses may reasonably be regarded as the maxima and minima attainable, taking into account possible fluctuations in home demand and other objective factors extraneous to export policy as such. These targets naturally depend on the fulfilment of the conditions specified in table 7 for each sub-class of products, and of the general conditions indicated in chapter II. The results of the projections - which, as already pointed out, are given purely for illustrative purposes - and the whole of the foregoing analysis of the conditions under which the export of manufactures is developing in Brazil thus serve, inter alia to indicate the wide field of action open to the authorities and to exporters of manufactures.

206. Lastly it will be appropriate to repeat here what was said in the earlier report in this series, on Argentina: namely that, although the conclusions arrived at are necessarily limited in scope, mainly because the study has been approached solely from the standpoint of supply, it is felt that the results, together with those of the other studies in the series, might provide a starting point and a basis for negotiations to prepare the way for a steady flow of manufactures from the developing to the industrialized countries.

12/ If the data for 1965 had been included, the short-term projection would have given a figure of $255 million on the hypothesis of reduced home demand (A) and of $156 million on the hypothesis of stabilized home demand (B). Since the actual value of exports in 1965 was $158 million and it is very probable that the 1966 figure will be slightly lower, neither of the two estimates would have given acceptable results. The estimate based on hypothesis A would be nearly $100 million too high. The agreement between the actual figure and that of hypothesis B is merely a coincidence, for this hypothesis assumes that home demand has been stabilized and it obviously has not, since by the end of 1965 and the beginning of 1966 economic activity in general and industrial activity in particular had not attained what could be considered a normal rate for an economy in untrammelled growth.

All this bears out the evident superiority of the estimates based on the statistical data available up to the date of the survey. In fact, the hypothesis which assumes a reduced home demand - i.e. the one which puts the short-term export figure at $160 million - has proved to be the right one, because it fits the real economic conditions, and furthermore the estimates based on it have been confirmed in practice by the $158 million worth of goods actually exported in 1965.



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IV. PROJECTIONS OF POTENTIAL EXPORTS

184. From the study of a selective sample of manufactures which are considered representative of general export prospects, coupled with the statistics of past performance examined in chapter I and the information provided on manufactures in general and on products not included in the sample, it is possible to attempt an estimate of Brazil's export potential.

185. It will be appropriate to repeat here that every effort was made to ensure that the products analyzed were representative. This was done by selecting them on the basis of certain characteristics of the industries producing them and with due regard to their main technological features, so that the products chosen could be considered properly representative of broader sectors. As to the remaining products which were not analysed individually, the aim was to take them into account by means of a general, mainly qualitative, appraisal based on information provided by chambers of commerce and associations of industrialists and exporters and on other relevant material.

186. It must be emphasised that these projections are purely illustrative. Their validity depends on a great many largely unpredictable factors. The following estimates, therefore, merely indicate which products or group of products, according to the data available and assuming that the requisite incentives are provided, could be sold in greater quantities on the international market; an attempt will also be made to indicate the limits attainable in the short or medium term.

187. In addition, the factors which directly affect exports, either by encouraging or by impeding them, will be identified by groups of products in order to facilitate whatever action the competent authorities may wish to take in the matter; no attempt is made at an exhaustive list.

188. The various measures needed in each case determine the length of time that must be allowed for the applied stimuli to yield practical results. For instance, where the main prerequisite is rationalised cultivation, the time required will obviously be much longer than where the solution lies in longer-term financing.

189. The orders of magnitude suited to policy measures at official and enterprise level represent the theoretical limits of the projections; to these must be added the usual warnings that the reactions of the market, whether domestic or international, are unpredictable.

190. The quantitative estimate of the projections is preceded by table 7, which is designed to show what export trends are possible and what problems will be faced in promoting them.

191. Owing to the limitations imposed by the classification of products and by the symbols used, the conclusions have had to be drawn in very general terms, especially in classes 5-8, where each sub-class covers a very large number of products, sometimes with contrasting characteristics. To take an example, the prices of the raw materials used in the production of machinery and vehicles include some competitive prices (for cast iron, weldings and roughly machined items) and some high prices (for forgings, steel and finely machined items).

192. Such cases are illustrated in chapter III of this report, where the analysis defines, for certain products, the basic factors determining advantages or disadvantages on the international market.

193. The data in table 7 should be regarded as applicable to the average products in the sub-classes mentioned, with the implication that each sub-class may include products with different characteristics The same consideration should be borne in mind with regard to the other factors affecting production.

194. Export prospects and the appropriate incentives are undoubtedly simpler for primary products, but this consideration should not be allowed to restrict exploration of the theoretical possibilities of wider diversification of exports.

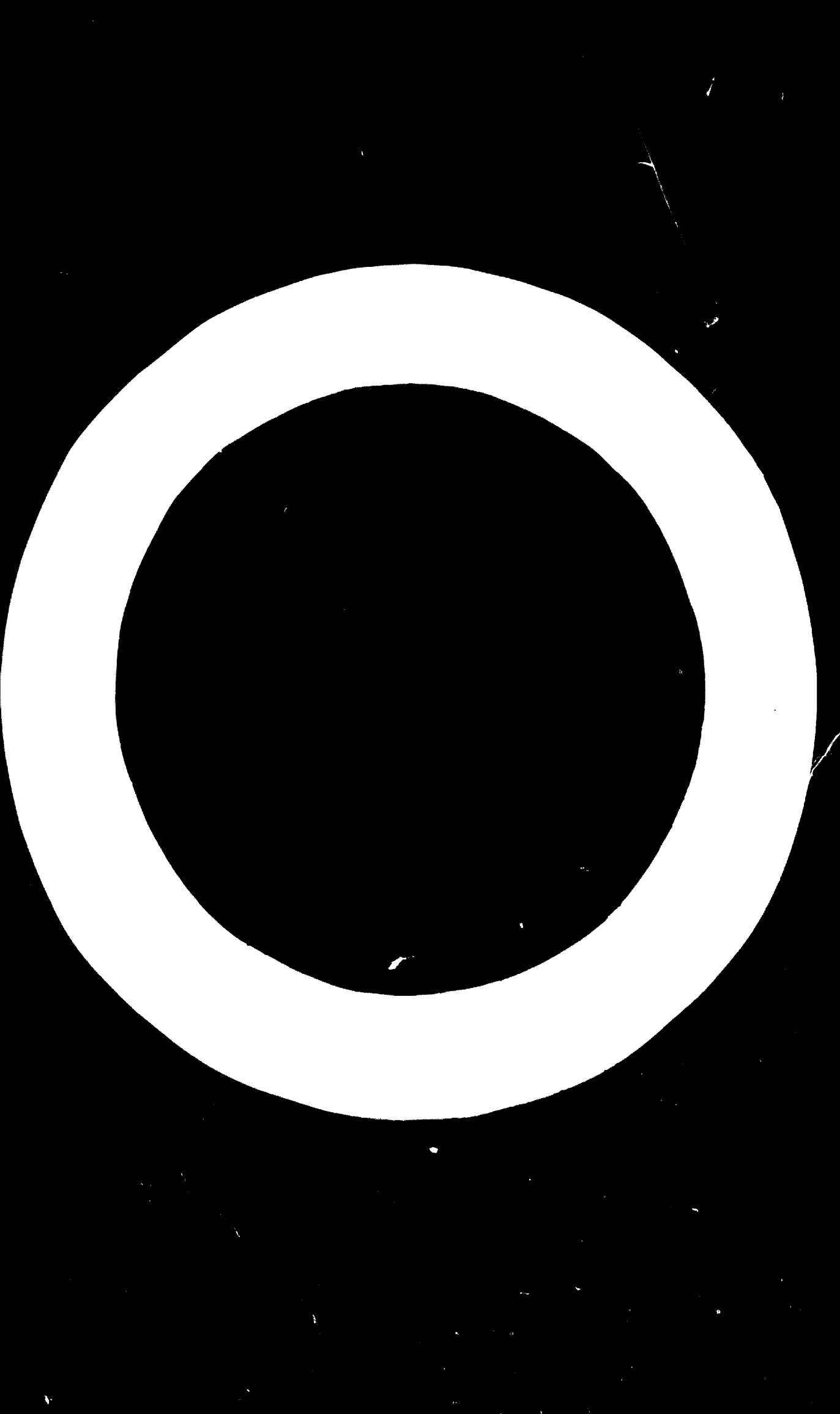
Table 7

[illegible]: FACTORS LIMITING OR PROMOTING EXPORTS OF MANUFACTURES AND ESTIMATES OF POTENTIAL INCREASES

Share of these products in:		Products	Physical availability of raw material	Cost of raw material	Installed productive capacity	Technological knowledge	System of marketing abroad	Quality controls	Other vital needs	Chances of increasing exports	
OECD exports	The national exports									Magnitude	Speed
1	2										
									Plant expansion		
3	4										
									Increased stock-raising		
5	6										
7	8										
9	10										

[illegible]

[illegible] * possibility of rapid increase



195. To the estimates given in the last two columns of table 7 some estimated co-efficients can be applied showing the possible short-term (1-2 years) and medium-term (4-5 years) increases in exports, as follows:

Percentage increases in exports

	Short term	Medium term
Insignificant	-	-
Slight and slow	10	20
High but slow	50	100
Slight but quick	40	50
High and quick	100	200

196. Once the basic hypotheses have been made, it remains to decide to what figures the increases should be applied. A first solution is to take as the starting point the peak export figures for each category of products, which represent the limits already reached and which can be used to project the future development of exports under the most favourable conditions. This procedure, however, has the disadvantage that the peak exports may have been achieved under exceptional and transitory conditions (e.g. a decline in home demand or sporadic foreign demand).

197. Another solution is to take as the point of departure average exports over a few years, so as to eliminate exceptional factors that may have affected the prevailing trends. This method also has its limitations in the case of a developing country, for it weakens the effects of any structural changes that have taken place there.

198. From this standpoint it was not thought advisable to take the 1965 export figures into account under either of the two hypotheses. The main reason for this was that, when the investigation of a sample of products - unquestionably the main basis for the estimates of Brazil's aggregate export potential - was carried out, the available facts and figures went only up to 1964. Hence the assessment of export prospects is closely bound up with the situation prevailing up to the date of the investigation. The significance of this factor is all the greater if we bear in mind that all the conditions affecting industrial development are rapidly changing.

199. The results are given in table 8.

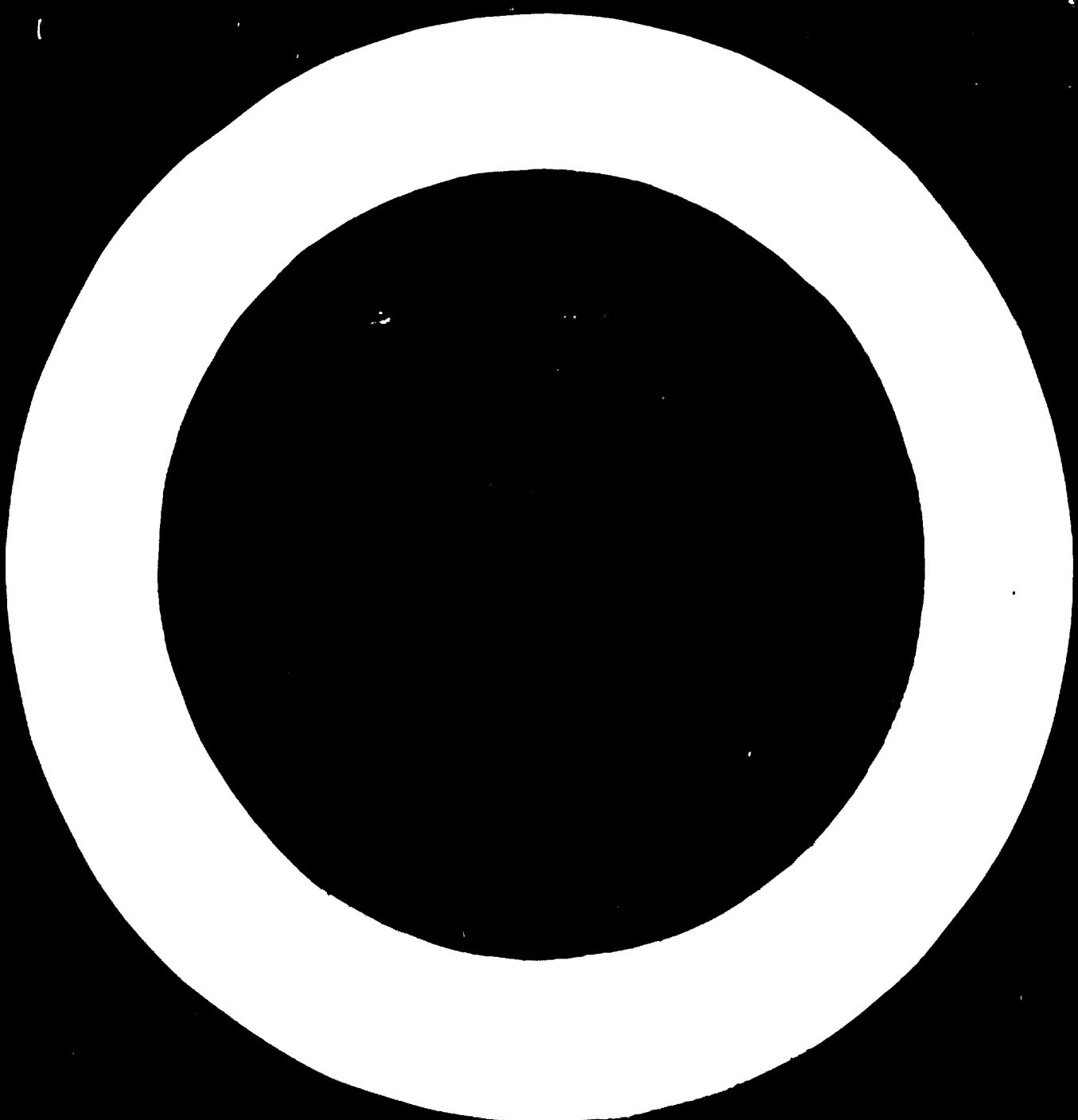


Table 8

BRAZIL: ESTIMATES OF THE VALUE OF POTENTIAL EXPORTS OF MANUFACTURES

(Thousands of dollars)

SITC Classification	Number of class according to: This report	Number of class according to: The official Brazilian statistical classification	Products	Hypothesis A (reduced home demand): Maximum annual exports in 5-year period: Year	Hypothesis A (reduced home demand): Maximum annual exports in 5-year period: Value	Hypothesis A (reduced home demand): Potential annual exports a/: Short term	Hypothesis A (reduced home demand): Potential annual exports a/: Medium term	Hypothesis B (stabilized home demand): Average exports in 3-year period 1962-1964	Hypothesis B (stabilized home demand): Potential annual exports a/: Short term	Hypothesis B (stabilized home demand): Potential annual exports a/: Medium term
	I	2	**Processed or unprocessed raw materials**							
611-613			1. Dressed skins and leather	1962	1,595	2,200	2,400	1,404	2,000	2,100
231.2			2. Synthetic rubber	1964	2,108	4,200	6,300	904	1,800	2,700
631			3. Wood, worked	1964	2,039	4,000	6,000	1,140	2,200	3,400
251.2			4. Mechanical or chemical wood pulp	1964	1,183	3,500	5,600	1,029	2,000	3,000
667			5. Precious and semi-precious stones, cut	1961	134	250	400	25	50	70
288.6			6. Wool tops	1964	2,956	2,950	2,950	934	950	950
651 exc. 651.6 and 651.7			7. Textile yarns	1960	822	1,350	1,500	275	400	600
651.6, 651.7, 866			8. Artificial and synthetic fibres and yarns	1964	31	40	40	11	20	20
411.3			9. Animal fats	1963	4	10	10	2	10	10
			Sub-total (class 2):		11,472	18,500	25,000	5,784	9,380	12,000
	II	4	**Food and beverages**							
138.1			10. Beverages	1962	5	20	20	4	10	10
013			11. Canned meat and related products	1961	14,741	20,500	22,000	7,457	11,500	12,400
038			12. Canned fish and related products	1960	5	20	20	2	10	10
022.021,024			13. Processed milk	1960	6	10	10	-	-	-
099.8(9)			14. Powdered eggs	1961	160	200	200	22	50	70
053			15. Canned fruit	1963	2,395	5,500	7,000	1,552	3,100	4,700
022.8(9),022.8			16. Caramels, etc.	1963	5	10	10	2	10	10
071.3			17. Preparations of coffee	1963	285	500	700	171	300	500
072.2,072.3			18. Preparations of cocoa	1962	16	30	40	14	20	30
099.8(8)			19. Extracts and essences	-	-	-	-	-	-	-
099			20. Canned vegetables	1964	959	1,950	2,800	569	1,000	1,750
			Sub-total (class 4):		18,437	28,000	33,000	10,525	16,000	19,500
	III	5	**Chemicals and chemical products**							
513,514			21. Inorganic chemical elements and products	1961	3,773	5,600	7,000	434	650	850
512			22. Organic chemical products	1961	11,447	17,200	23,000	10,725	16,100	21,500
541			23. Pharmaceutical and medicinal products	1964	1,209	1,700	1,800	990	1,400	1,500
532,533			24. Tanning and dyeing extracts	1964	569	1,000	1,200	364	550	700
551,553,554			25. Essential oils and aromatic products, perfumes, soaps and other toilet articles	1961	3,503	5,300	7,000	3,244	4,800	6,500
561			26. Fertilizers, manufactured	-	-	-	-	-	-	-
387			27. Plastic materials and synthetic resins	1964	350	500	700	140	200	250
599,571			28. Miscellaneous products of the chemical industry	1964	933	1,000	1,200	436	500	600
			Sub-total (class 5):		21,810	30,300	38,900	16,334	24,000	31,500
	IV	6	**Machinery and vehicles, parts and accessories**							
722-726,729			29. Electrical machinery and apparatus, parts and accessories	1964	1,644	1,600	2,000	916	1,000	1,100
711,716,719			30. Power generating machinery	1964	982	1,100	1,200	387	400	500
712 exc. 712.5			31. Agricultural machinery and implements (excluding tractors)	1964	91	150	200	64	100	100
718			32. Transport and lifting machinery and equipment	1964	1,232	2,500	3,400	844	1,350	1,950
717.1,717.3			33. Machinery and equipment for the textile industry	1964	115	150	200	65	90	90
717.2			34. Machinery and equipment for other industries	1964	2,576	5,200	7,000	1,715	3,400	5,400
719			35. Other machinery and equipment	1964	4,060	5,100	12,300	2,775	5,100	7,700
731-735			36. Vehicles, parts and accessories	1962	9,695	17,500	26,000	7,059	14,100	21,200
			Sub-total (class 6):		19,901	34,300	53,300	13,639	26,000	38,300
	V	7	**Manufactures classified by raw material**							
612			37. Of skins and leather	1964	502	800	900	278	400	600
621,629			38. Of rubber, ebonite and similar products	1964	5,353	10,800	16,000	2,819	4,000	6,000
633,632			39. Of wood and bark	1962	685	1,000	1,000	681	1,000	1,000
641,642			40. Of paper and paper articles	1960	134	150	200	53	100	100
661,663-666			41. Of non-metallic minerals	1964	715	1,000	1,100	535	750	900
667,891			42. Of precious and semi-precious minerals	1964	92	200	300	32	200	300
671-679,681-689			43. Of base metals	1964	17,218	19,000	21,000	7,258	9,600	9,700
691,693-696			44. Of metals	1964	483	550	600	391	450	500
638-657			45. Of textiles	1964	6,957	10,500	14,000	4,141	6,100	8,300
			Sub-total (class 7):		32,142	44,000	55,000	15,489	22,000	27,500
	VI	8	**Miscellaneous manufactures**							
812			46. Sanitary and lighting fixtures and fittings	1963	253	350	400	158	200	250
821			47. Furniture and accessories	1964	75	100	130	55	100	100
831			48. Travel goods, handbags and similar articles	1964	17	30	50	10	20	30
841			49. Clothing	1964	130	250	400	107	200	350
851			50. Footwear	1961	214	300	350	185	200	250
861			51. Professional and scientific apparatus, instruments and articles	1964	349	450	500	251	300	350
895			52. Office and stationery supplies	1964	18	20	20	10	15	20
899.5,893,898,899.4-899.6			53. Small merchandise and articles for personal use	1964	67	100	100	64	70	100
899.1,899.2			54. Cutlery	1964	31	50	50	12	20	20
891,892,896,897,899.3,862,951			55. Other manufactures	1964	936	1,350	1,500	611	900	1,400
			Sub-total (class 8):		2,143	3,000	3,500	1,480	2,000	2,500
			GRAND TOTAL:		105,369	160,300	209,200	63,141	99,300	130,300

Source: Official statistics, SUMOC, etc., and ECLA estimates.

a/ The projection figures have been rounded: hence the totals, especially those reduced, disagree with the proportion that would be given by a strict mathematical application of the potential increases previously mentioned.