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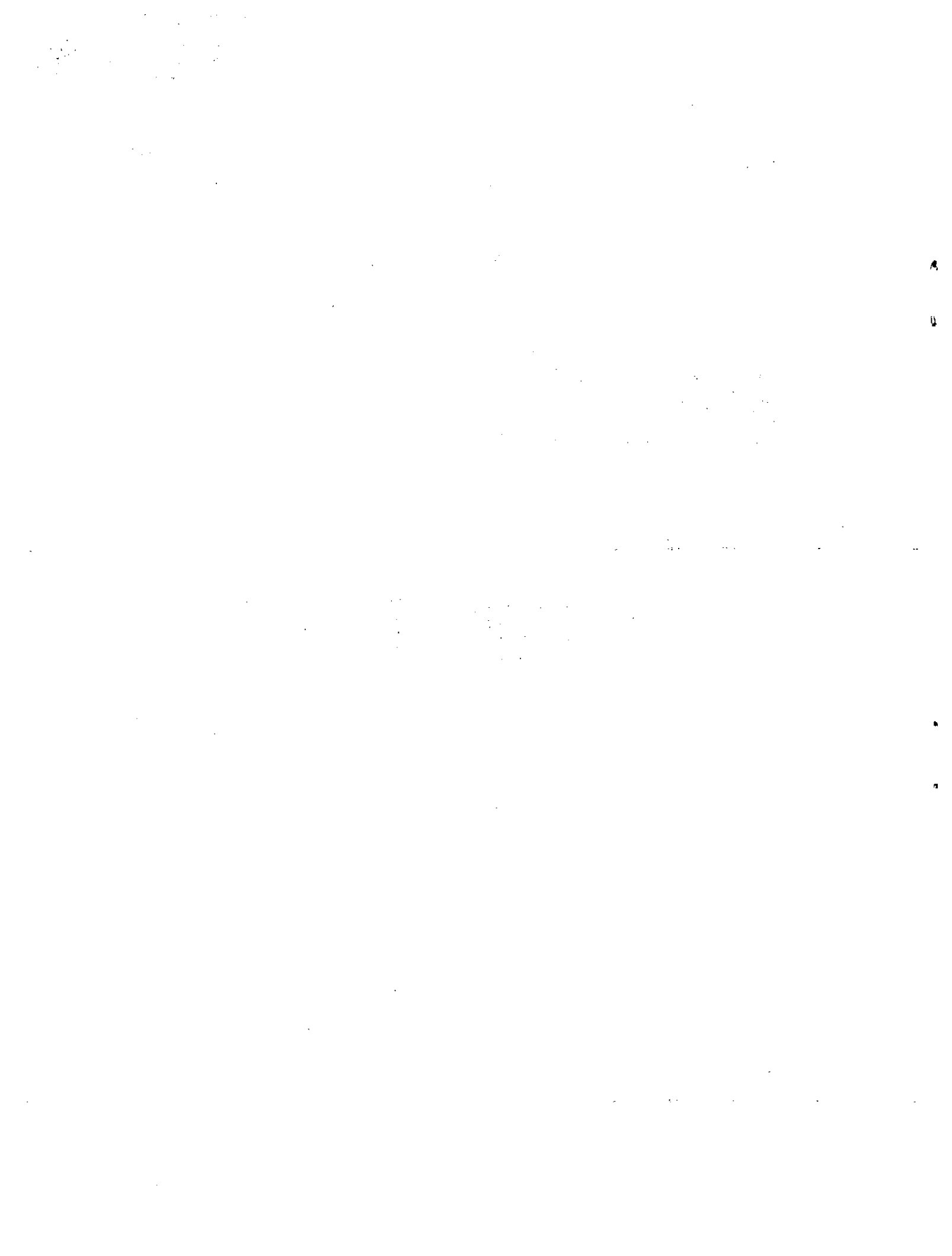
LATIN AMERICAN SYMPOSIUM ON
INDUSTRIAL DEVELOPMENT

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INDUSTRIAL DEVELOPMENT OF TRINIDAD AND TOBAGO

Submitted by the Government of
Trinidad and Tobago



FOREWORD

Trinidad and Tobago's report on industrial development attempts to conform as closely as possible with the outline suggested by the Secretariat of ECLA servicing the symposium on industrial development in Latin America. It was, however, impossible to follow the outline in every detail either because statistical coverage is such that no firm information exists in certain areas of enquiry or because there has been negligible activity in certain aspects of industrial development in our country.

With respect to statistical coverage, we must point out that the basic sources of information on the manufacturing sector are the industry surveys conducted by the Central Statistical Office. The first was conducted in 1951, a second in 1957 and the third in 1963. The results of the last survey have not been finally analysed. All figures later than the 1957 survey on the manufacturing sector are therefore provisional.

We are also not very happy about the time intervals between the surveys. It was originally intended that these surveys would be conducted every three years but owing to acute shortage of personnel in the Central Statistical Office for producing both the entire range of statistics and those on industry the original time table on industry lagged much to our regret.

Unfortunately the surveys were not designed to cover all the information requested in the report. For example information was not collected on the proportion of profits which goes to distributed profits, depreciation reserves, loans contracted by manufacturing industry both at home and abroad, etc.

In this report most tables and figures are reported in Trinidad and Tobago dollars. Where the U.S. dollar is used, this is clearly indicated. The Trinidad and Tobago currency stands in the following relationship to U.S. currency.

\$1.00 U.S. = \$1.72 Trinidad and Tobago

The West Indian dollar (W.I.) has an equivalent value with the Trinidad and Tobago dollar.



PAST TRENDS

The manufacturing sector in Trinidad and Tobago is broken down into major components based on the importance they hold in the economic structure of the country. The analysis of sectoral development of manufacturing over the past 15 years will be based on a breakdown similar to that presented in the National Accounts of the country.

The Period up to 1957

In 1957 a survey of industrial establishment in Trinidad and Tobago gave a picture of the structure and output of the industrial sector in 1957 and an indication of the changes which took place in that sector since 1953. The industrial censuses ^{1/} of 1953 and 1957 covered only establishments engaging 5 persons or more. The principal features of those censuses are outlined below.

The number of industrial establishments engaging five persons or more increased from 537 in 1953 to 575 in 1957.^{2/} The gross output of the sector increased from \$416.8m to \$662.4m between 1953 and 1957, an increase of 59 per cent or an annual rate of growth of 12 per cent. The net output increased \$186.5m in 1953 to \$292.1m, an annual rate of growth of 12 per cent. In real terms gross or net output increased by 52 per cent between 1953 and 1957, or an annual rate of 11 per cent.

During the period significant changes in the composition of the sector were beginning to take place because of the appearance of new manufacturing industries and the more rapid expansion of some industries relative to others. Although the oil industry predominated there was some evidence that the rate of expansion achieved in other fields of

^{1/} Industrial censuses are conducted periodically. There was one in 1953 another in 1957 and a third in 1963. The results of the 1963 census have not yet been analysed fully. This is expected to be ready by the time the Symposium begins.

^{2/} The manufacturing sector as defined in the 1953 and 1957 surveys includes construction, electricity and water. These together have a substantial weight in the statistics. See Appendix

manufacturing had reduced slightly the predominating position of oil. Thus although net output of the oil and asphalt industry increased by 48 per cent in the period, its share of the total net output fell from 75 per cent in 1953 to 70 per cent in 1957. Sugar manufacturing also declined as a contributor to the total net output, the proportion falling from 5 per cent in 1953 to 3 per cent in 1957.

On the other hand important advances were recorded in other manufacturing industries. The manufacture of clay and concrete products improved its share of the total net output from 0.4 per cent to 1.7 per cent in 1957; and miscellaneous industries which then include most of the pioneer manufacturers, contributed 7 per cent of the total net output in 1957 as compared with 5 per cent in 1953.

Changes in the composition of output in the sector were accompanied by parallel changes in the size and structure of establishments. Establishments were getting larger. The average employment size of industrial establishments increased from 81 persons in 1953 to 93 persons in 1957 and the average gross output for establishments grew from \$776,000 to \$1,152,000. This growth in the average size of establishment was brought about both by expansion in old establishments and by the introduction of new firms of considerable size.

The number of jobs provided by the industrial sector increased by almost 9,000 from 43,400 to 53,200. The oil industry increased its direct employment by only 900 in the period. Along with the increased employment, earnings increased sharply. Average annual earnings per person increased from \$1,291 in 1953 to \$1,504 in 1957. In every industry group earnings registered a significant increase between 1953 and 1957. Employees in the oil and asphalt industry received the highest average earnings in both years, the earnings being \$1,862 in 1953 and \$2,304 in 1957.

Gross capital formation in the industrial sector proceeded rapidly during the period. It rose by 92 per cent from \$43.9m in 1953 to \$84.3m in 1957. In 1953 it contributed 56 per cent to the total fixed capital formation in the country. In 1957 the proportion increased to 57 per cent.

/The capital

The capital investment carried out in the period under review was concerned not only with increasing the volume of the capital assets but also with improving the quality and efficiency of the total stock of capital. For example the total installed capacity of power equipment registered only a small increase of 1 per cent between 1953 and 1957 while on the other hand the total installed capacity of electric motors increased from 90,214 to 104,710 h.p., an increase of 16 per cent and the capacity installed of self-propelled machines increased by 224 per cent. Owing to the expansion of electricity the installed capacity of equipment engaged in driving other motors fell by 31 per cent.

GENERAL

Since 1957 the manufacturing sector went through what might be described as three distinct phases; the first phase covered the period 1957 to 1961 when there was a substantial expansion in both capacity and output of most manufacturing industries; the second phase covered the period 1962 to early 1964 when there was a very marked slowing down in the rate of growth of output, and with one or two exceptions, very little expansion in productive capacity; the final phase relates to the period since mid-1964 when there has been some resurgence in the sector and this has been reflected in some increase in output and in the announcement of plans for further expansion in capacity. For the most part, these cyclical changes in the sector were the reflection of marketing difficulties and price declines especially in the export sector; but other national and international developments were also contributors.

The policy of providing attractive fiscal incentives to encourage the necessary rapid expansion in manufacturing was continued during this period and in certain instances important additions and extensions to the list of incentives had to be made in order to attract major industries here. The need to offer attractive fiscal concessions as incentives for establishing and developing industries in Trinidad and Tobago has become critical in view of the need to diversify the economic structure of the country to ensure growth. This need has become even more pressing in recent times in view of the accelerated decline in the production of crude oil in the country and the fact that industry accounts for 29 per cent of Government revenue and 28 per cent of the gross domestic product.

/It is

It is therefore now necessary for Trinidad and Tobago to alter the structure of the economy not only to rely less on oil and more on other sectors, but also to compensate for and offset the decline in oil, and such compensation must inevitably be in the manufacturing sector, the agricultural potential being limited. However, several conditions exist which deter the smooth transformation of the economy. Chief among these is the small size of the economy from the point of view of both a source of savings for investment and for the creation and/or expansion of markets for manufactured goods. Intermeshed with this is the fact that the capacity to attract foreign capital is dependent on the relative extent of profitability of investment here when compared with the returns to investment possible in other countries. This means that fiscal concessions, at least equal to those offered by other Caribbean countries, to prospective investors, both local and foreign, must be offered by Trinidad and Tobago in view of the keen competition for investment in the area.

The Government of Trinidad and Tobago is granting these liberal concessions to the investors in the manufacturing sector at the cost of foregoing substantial increases in its current revenue. The position is further aggravated by the fact that simultaneous with the granting of these concessions provision of the appropriate infrastructure has to be financed. However, the Government is making these immediate sacrifices in anticipation of the long-term returns in the form of a viable economy founded upon a diversified base. Some idea of the response to Government's quest for investment in this sector may be obtained from the following list of products, the manufacture of which was commenced in the country under the Aid to Pioneer Ordinance during the period 1957 to September 1965 and are continuing production:

Petroleum Products:

- (i) Nitrogenous fertilizer
- (ii) Lubricating oils and greases
- (iii) Industrial chemicals, B.T.X. Concentrate
- (iv) Industrial chemicals - benzene, toluene, etc.

/Food Manufacturing:

Food Manufacturing:

- (i) Baking powder
- (ii) Stock and poultry feeds - 2 factories
- (iii) Coconut shell products - 2 factories
- (iv) Milk processing
- (v) Processing of dry peas
- (vi) Processing of lime juice
- (vii) Processing of fresh foods
- (viii) Macaroni products

Textiles and Garments

- (i) Boys' and mens' wear
- (ii) Lingerie and bathing suits
- (iii) Knitted goods
- (iv) Boots and shoes
- (v) Brassieres and girdles

Construction, etc.

- (i) Specialized cement
- (ii) Cement concrete blocks - 2 factories
- (iii) Metal building components - 7 factories
- (iv) Metal pipes corrosion protection
- (v) Insulating building materials from plastics
- (vi) Impregnation of lumber with chemicals
- (vii) Mechanical batching and mixing of concrete - 3 factories
- (viii) Paints, etc. - 2 factories
- (ix) Wire, nails and staples
- (x) Centrifugally spun concrete pipes - 2 factories
- (xi) Sawmilling
- (xii) Pre-stressed and post-stressed concrete products

Other Manufacture

- (i) Plastic goods - 3 factories
- (ii) Gramophone discs and records - 2 factories
- (iii) Tinplate containers - 3 factories
- (iv) Metal furniture - 4 factories

/Other manufacture

Other Manufacture (continued)

- (v) Toilet soap
- (vi) Engraving of metals
- (vii) Production of motion picture film
- (viii) Acid-filling accumulators (batteries)
- (ix) Sanitary paper (paper napkins)
- (x) Metal containers
- (xi) Paper bags
- (xii) Toilet rolls
- (xiii) Synthetic detergents
- (xiv) Metal closures for jars and bottles
- (xv) Motor vehicle radiators
- (xvi) Artificial teeth and related products
- (xvii) Polishes
- (xviii) Batteries - 2 factories
- (xix) Processing of old metal
- (xx) Foam rubber
- (xxi) Candles
- (xxii) Extruded rubber goods
- (xxiii) Zip fasteners

Oil Refining Production

There has been a very rapid expansion in the capacity of the refineries in the country. In 1957 the refinery throughput amounted to 50.5 million barrels; by 1961 this throughput had increased to 103 million barrels and by 1965 the throughput is expected to be about 137 million barrels. This expansion has carried refinery capacity to well over $2\frac{1}{2}$ times local crude oil production and the required oil has been imported from Venezuela, Colombia and other Latin American producers as well as from the Middle East. The situation has therefore been reached in the local oil industry where the country is now largely a refining centre for crude oil produced in other parts of the world. For the most part, the additions to capacity were completed before 1962. Since then there have been only relatively minor improvements to the plants.

/The expansion

The expansion in refining capacity has involved the provision of facilities not only to handle more crude oil but also to produce more products from crude oil. Whereas in 1957 residual fuel oil composed the main commodity coming out of the refinery, in 1965 middle distillates and light fractions comprise a significantly higher proportion of the total out-turn.

Further, there has been added to the refinery complex a lubricating oil plant with a capacity of 2,700 barrels per day producing largely for export. This plant was completed in 1964.

Finally, there has been some growth in the production of petrochemicals associated with refining operations. The principal petrochemicals which are currently produced within the refining operations are listed below. It is quite feasible, technically, both to expand the output of these chemicals and to widen the range of items which can be produced. However, marketing problems are inhibiting growth in this field.

Petrochemicals Associated with Refining Operations.

ITEM	CAPACITY
Tetramer	32 400 bbls per year
Nonene	78 000 " " "
D.I.B.	45 600 " " "
Naphthenic Oil Residue	21 600 " " "
Cyclohexane	288 000 " " "
Benzene	240 000 " " "
Toluene	480 000 " " "
Normal Paraffins	990 000 " " "

It may be remarked here that the expansion in the production facilities in the oil refining industry was undertaken with a very large measure of assistance by the Government in the form of fiscal benefits. In the case of the lubricating oil plant for example, not only did all the machinery and construction materials come into the country without import duty, but also all the raw materials to be used in the industry will be free of duty; finally the industry will enjoy a complete tax holiday for at least ten (10) years.

/Related to,

Related to, but separate from the growth in the oil industry operations has been the establishment of a very large fertilizer plant using natural gas as one of its principal raw materials. This plant now produces 83,000 tons of sulphate of ammonia; 26,000 tons of urea, and 184,000 tons of anhydrous ammonia. Currently a further expansion in production capacity is being undertaken which will double the output of the industry. The industry is almost entirely export oriented, less than 10 per cent of the output being consumed locally.

The initial planning of the fertilizer plant included provision for the production of a number of other high value petrochemicals, among them being methanol, styrene, naphthalene, phthalic anhydride, ethylene glycol, oxo alcohols, formaldehyde and urea formaldehyde resins. Many of the basic overhead facilities necessary to handle the production storage and marketing of these items have already been installed. However, a fundamental factor is the availability of export markets and marketing prospects in the E.E.C. have become considerably clouded in recent years. The company is under a commitment to the Government to produce these petrochemicals as soon as the prospects for export markets improve.

As in the case of the oil refinery the Government has made a very substantial sacrifice of revenue to encourage the establishment of the fertilizer and petrochemical industry here. The company will enjoy tax holidays for at least ten years in addition to obtaining duty free facilities for all its imports of raw materials and capital. In addition the Government incurred in considerable expense in order to provide the industry with an adequate continuous source of cheap electricity, all these sacrifices having been made in the expectation that the industry will make an important contribution to the employment and balance of payments position in the country.

Textiles and Garments

The textile and garment industry continued to grow during the first phase of the cyclical pattern followed by manufacturing industry that is up to 1962. The growth was particularly sharp, averaging over 8 per cent per year in the manufacture of wearing apparel. This growth

/which was

which was associated with import substitution was in fact a continuation of a trend starting from the early 1950's when fiscal incentives were first applied. In 1962, for example, there were 36 firms producing these goods in the country as compared with 29 in 1957. Since 1962 there has been no increase in the number of firms and further the rate of increase in production has slowed down considerably.

This reduction is entirely due to the shortage of markets, the limits of import substitution having almost been reached in this field. Not only has the domestic market been relatively inelastic for these goods but export markets have also been particularly volatile, this volatility being found equally in the developing countries which are protecting their infant industries as well as in the developed countries where tariff and non-tariff barriers have been liberally erected to keep out exports from this country.

Recent indications are that the rate of production in the industry will accelerate somewhat because of the incipient resurgence in domestic purchasing power. However, there still exists considerable surplus capacity in the industry and export markets are being sought actively.

Food, Drink and Tobacco

These consumer goods industries increased their output in the latter half of the 1950's in line with domestic demand. No serious inroads were made into imports during the period 1957-1962. Some of the individual industries registered particularly sharp fluctuations, the most important of them being the citrus juices industry where value added fluctuated from year to year because of seasonal changes in the crop as well as volatile export prices. The local citrus industry has come under heavy pressure from the subsidized U.S. industry and has been able to survive only because of the continuation of quota restrictions on U.S. exports to the United Kingdom. If this Commonwealth preference is removed, the industry may well perish.

The rum industry has also experienced sharp fluctuations. The market for this industry has been sharply curtailed not only by penal consumption duties in developing countries but also because of monopolistic practices in many of the consuming countries. In Canada, for example, the provincial laws along with a large monopoly has all but squeezed Trinidad rum out of the Canadian market.

/The situation

The situation now exists in the local rum industry where production is now carried on for only a fraction of the year, stocks having been accumulated to exceedingly high levels.

Since 1962 there has been some growth in food manufacturing associated with import substitution. Animal feed production, using imported raw materials, has grown sharply to sustain the growing poultry industry. There has also been some advance in the processing of locally grown vegetables although the lack of export markets is proving a most serious obstacle to further development. The processing of milk has been introduced largely with a view to substitute the growing volume of imports. Finally the milling of flour is expected to commence in early 1966.

Building Materials

The production of building materials in the country rose with the expansion in construction. This expansion has taken place not only because of growth in output of factories existing in 1957 but also as a result of new factories being introduced. The output of cement for example increased by 40 per cent between 1957 and 1962 and there was a similar expansion in the production of bricks and tiles.

During this period also certain new building materials were introduced or greatly expanded in the country. Among these are paints, roofing materials, metal doors, windows, etc., as well as woodwork. Imports of wood, for example, increased by over 50 per cent in volume in this period.

Between 1962 and 1964, there was relative stagnation in the sector. This was due, in part, to a slowing down in the rate of construction in the country; but severe dumping was also experienced from other countries not only in the traditional export markets of the local industry but in the local market as well.

The capacity of plant existing in the country is adequate to sustain a market almost twice the present size. The exploitation of this capacity however, depends in the availability of export markets. The current resurgence in construction certainly enhances the prospects for the industry and the Government's efforts to stimulate construction further will be of assistance. The provision of production facilities in this sector which was done with liberal fiscal incentives by the Government, was undertaken with the expectation not only of expanded internal activity but also of the availability of export markets within the Latin American hemisphere.

/Other Manufacturing

Other Manufacturing Industry

There has been some diversification in the output of this sector since 1957. The packaging industry grew particularly sharply between 1957 and 1962 as did miscellaneous chemicals, pharmaceuticals and metal working. The growth in the output of the sector in the period 1957 - 1962 was due not to the introduction of any significantly large plant but rather to the additions to capacity of existing plants as well as the opening of a few factories of moderate size.

Since 1962 the expansion in this section has been sluggish and only a small number of new units have been introduced. The most significant of these new units has been the battery factory which was built with a capacity adequate to supply a much larger market than the domestic market.

Recently, however, there have been signs of some revitalization and plans have been announced for a number of new factories. Prominent among these are a dry dock capable of handling moderate sized vessels of the type that ply the Latin American routes and the assembly of motor cars and commercial vehicles. Both of these factories are expected to come into production in 1966.

Characteristics of Foreign Trade in Manufactured Goods

The importance of imports and exports to the economy of Trinidad and Tobago cannot be overstated. For the economy as a whole the importance of imports has been high and rising for the past 15 years. The ratio of imports to gross domestic product was over 50 per cent in each year and in 1961 it was almost 65 per cent. In 1964 it stood at 61 per cent.

The real import content of capital formation was always the highest of all demand components. The ratio for gross capital formation has tended in real terms to remain stable between 1951 and 1961 at an average close to 45 per cent and there has been very little movement in the trend of the ratio.

For private consumption expenditure the ratio has been rising since 1951. It was about 40 per cent for the years 1951 and 1953, rose and fell again between 1953 and 1955 and then began to increase after that; in 1960 the average import content in this component was 45.4 per cent.

/During the

During the last four years, there has been a downward trend in the import content of total output. It came down from an average of $44\frac{1}{2}$ per cent in the early 1950's to 33 per cent in 1964. The imported capital goods component of fixed capital formation fell in this period from 59 per cent to 39 per cent and the imported consumer goods and raw material component of the private consumption outlay declined from 53 per cent to $38\frac{1}{2}$ per cent. The coming into production of local manufacturing facilities has played an important part in the process.

Table

Years	Ratio of total imports to G.D.P.	Ratio of capital goods imports to investment in fixed capital	Ratio of all other imports to private consumption outlay
Average 1951-54	44.3	59.0	52.8
Average 1955-60	38.9	47.3	44.9
1961	32.3	35.5	39.4
1962	32.4	33.3	39.4
1963	32.6	38.8	38.1
1964	33.0	39.0	38.4

Table

IMPORTS CIF IN MILLION OF U.S. DOLLARS

	Average 1951-54	Average 1955-60	1961	1962	1963	Prel 1964
1. Fuels and lubricants	2.8	6.4	3.0	3.8	6.0	4.4
a. Total	(41.7)	(69.0)	(158.4)	(162.4)	(176.6)	(215.7)
b. Less imports of crude petroleum	(-38.9)	(-62.6)	(-155.4)	(-158.6)	(-170.6)	(-211.3)
2. Capital goods	26.4	50.5	53.5	57.4	65.9	65.1
3. Manufacturing (excluding capital goods)	33.1	49.0	59.7	62.7	61.3	64.4
4. Food, beverages and tobacco	27.0	39.1	47.2	48.7	49.0	53.0
5. Other intermediates	10.1	18.2	25.5	27.7	28.6	33.5
<u>Total</u>	<u>99.4</u>	<u>163.2</u>	<u>188.9</u>	<u>200.3</u>	<u>210.8</u>	<u>220.4</u>

Sources: Central Statistical Office, Overseas Trade, Annual and Monthly Reports, various issues; and unpublished data.

The major components of imports can be seen from the table. It can be seen that the importation of fuels, capital goods, manufacturing (excluding capital goods), food, beverages, tobacco and chemicals dominate the imports of the country.

The fuels section is particularly outstanding since our huge oil refining operations which have been vastly expanded in recent years have shifted their source of crude oil from indigenous to foreign sources. The large importation of machinery is mainly the result of investment in the oil industry.

Exports

Although exports are of tremendous importance to the country, their composition is basically simple. The basic pattern of the dominance of oil exports, sugar, cocoa and citrus and in more recent times chemicals has not changed significantly over the period 1951 to 1965.

/Table

Table
EXPORTS FOB ^{a/} IN MILLION DOLLARS

	Average 1951-54	Average 1955-60	1961	1962	1963	Prel. 1964
1. Fuels and lubricants	67.2	121.3	153.6	149.7	158.3	142.0
a. Total	(106.1)	(183.8)	(288.3)	(288.5)	(307.1)	(334.8)
b. Less imports of crude petroleum	(-38.9)	(-62.5)	(-155.3)	(-158.6)	(-170.6)	(-211.3)
c. Adjustment for valuation, coverage and processing fees	(-)	(-)	(20.6)	(19.8)	(21.8)	(18.5)
2. Sugar	13.5	18.0	24.7	19.5	27.2	26.0
3. Manufactured goods ^{b/}	2.0	5.5	5.8	6.7	7.1	7.8
4. Chemicals	2.5	2.7	6.6	9.1	7.9	16.3
5. Cocoa beans	6.8	6.1	3.8	4.7	5.0	2.8
6. Machinery and vehicles ^{c/}	1.0	3.0	3.3	3.3	3.8	2.9
7. Raw materials	2.2	2.7	3.0	2.9	2.5	3.2
8. Food, beverages, tobacco, oils and fats	6.4	9.0	10.6	10.7	13.2	14.7
9. Adjustment for balance of payments purposes ^{d/}	-21.1	-30.6	-37.2	-33.3	-27.2	-29.3
<u>Total</u>	<u>80.5</u>	<u>137.7</u>	<u>174.2</u>	<u>173.3</u>	<u>197.8</u>	<u>186.4</u>

Sources: Central Statistical Office, Overseas Trade, Annual and Monthly Reports, various issues; and unpublished data.

^{a/} Including re-exports.

^{b/} Including a large share of re-exports.

^{c/} Mostly re-exports.

^{d/} Mainly exports from warehouses less sales to ships' stores and bunkers.

/The growth

The growth of the economy of Trinidad and Tobago has been propelled by the rapid expansion of the petroleum sector during the period under review. Exports of petroleum products grew from \$67.2m (U.S.) in the early 1950 to \$142.0m (U.S.) in 1964. This rapid growth is the result of the expansion of the production of indigenous crude petroleum and the vast expansion of refining capacity in the late 1950's and early 1960's. By 1962 the refining capacity was more than double the indigenous production of crude petroleum which resulted in a shift to foreign sources for supplies of crude petroleum to achieve capacity output of refined petroleum products.

The most significant change in the structure of our exports of manufactured goods has been the growth of exports of petrochemicals. This is the result of the expansion of the refining operations which resulted in the production of a wider range of petroleum products and the production of fertilizers using indigenous natural gas as a basic raw material. The latter can be seen from the relatively rapid expansion of the exports of the item "chemicals" from \$ 2.5m (U.S.) in the 1950's to \$16.3m (U.S.) in 1964.

The exports of Other Manufacturing have shown a slower rate of expansion than those of the petrochemicals. The principal reason for this is first of all the continuation of the import substitution phase of the manufacturing process. This has taken place in food and drink, building materials, clothing and other miscellaneous items. Serious external market conditions associated with protectionist measures have been favourable to the expansion of the non-petroleum products in which we could establish a comparative advantage. In the field of textiles and other light consumer durables, the threat of quantitative restrictions and tariff barriers have stultified growth in these fields. Exports of these products have, therefore, gone principally to the small markets of the English speaking Caribbean territories while the large markets of the developed Western Hemisphere countries and Latin America have hardly been touched for the reasons stated earlier.

FINANCING

Financing of Manufacturing Industry

No firm data exist for the entire manufacturing sector on the sources and use of funds for investment and the distribution of profits. However, a very limited survey which was confined to a select group of pioneer industries (52 in number) was conducted by the Central Statistical Office in 1960 and a little light has been shed on such matters as the geographical origin of the capital used, control of establishment etc. Very little knowledge can be gained from this study of the contribution to capital formation of undistributed profits, depreciation reserves and general reserves.

In 1959 the total amount of capital generated by the 52 establishments was \$60.6 million of which \$23.2 million or 38 per cent was paid up share capital and \$37.5 million or 62 per cent was loan capital. This was a considerable increase over 1958 when total capital generated stood at \$48.6 million of which \$21.7 million or 45 per cent was share capital and 55 per cent, \$26.9 million, was loan capital.

Debentures accounted for over 60 per cent of the loan capital used in both years and credit on Head Office account comprised 26 per cent of the total loan capital in 1958, and 20 per cent in 1959. Most of \$16.4 million in Debentures in 1958, and \$26.1 million in 1959 were raised by one big establishment and these were held largely by the parent company of the establishment. Together these two items are indicative of the type of establishments being attracted to our country. Many of them are branches of firms of long standing in manufacturing.

More than 80 per cent of the capital used in the establishments came from abroad. The inflow of foreign funds into these manufacturing establishments up to 1959 was \$50.0 million of which \$16.4 million was in share capital and \$34.1 in loan capital. The setting up of one big plant in 1958 and 1959 led to a substantial inflow of foreign capital during this latter year. In 1958, the total stock of foreign capital in these 52 establishments was \$39.7 million of which share capital was \$15.6 million and loan capital \$24.0 million. This means that during 1959

/\$10.9 million

\$10.9 million of foreign capital was invested in Pioneer establishments of which \$0.8 million, was in share capital and \$10.1 million in loan capital. Local capital in these establishments although small in relation to foreign capital, was not unimportant. The total stock of local capital in these business increased from \$8.9 million in 1958 to \$10.1 million in 1959. Of these amounts share capital absorbed \$6.1 million in 1958 and \$6.8 million in 1959.

The foreign capital which was invested in the territory came principally from the United States and the United Kingdom. The stock of United Kingdom investment in these establishments in 1958 was \$16.8 million of which \$8.9 million was invested in shares and \$7.9 million in loans. In 1959, the stock increased by \$3.1 to \$19.9; loan capital in 1959 was \$10.8 million that is \$2.9 million more than in 1958; and share capital was \$9.1, that is \$0.1 million more than in 1958.

But the biggest contributor to the total stock of capital in this sector was the United States. In 1958, the total stock of capital from this area was \$21.7 million of which \$5.8 million was share capital and \$15.9 million was loan capital, a large proportion of this latter being debentures. By 1959 loan capital had increased to \$22.8 million and share capital had increased to \$6.3 million making a total investment in 1959 from that territory of \$29.1 million, almost one half of the \$60.6 million invested in these establishments.

There was relatively little local participation in foreign controlled establishments and equally participation in locally controlled establishments was small. In 1959 for example, of the \$9.9 million invested in locally controlled establishments \$8.4 million or 85 per cent came from local sources and \$1.6 million from foreign sources; of this \$1.6 million \$1.0 million was share capital. Similarly of the \$50.7 million invested in foreign controlled establishments \$49.0 million or 97 per cent came from foreign sources and \$1.7 million from local sources; this latter \$1.7 million was equally divided between loan capital and share capital.

In the survey no distinction was made between ordinary and preference shares. The total paid up share capital was treated as ordinary share capital.

/Share capital

Share capital is usually floated to finance fixed investment i.e. to provide the fixed assets of the enterprise, but in exceptional cases, depending on the nature of the business, it may be used to finance circulatory assets i.e. stock in trade.

Fixed investment involves a long term utilization of capital and as such carries greater risk than short-term capital. Banks and other short-term lenders are usually willing to advance working capital which is self-liquidating during the normal course of business, but are extremely loath to lend on long term i.e. to provide fixed capital. Therefore, as short-term capital is relatively simpler to obtain than long-term, firms tend to utilize share capital in fixed investment. A figure for paid up share capital is, therefore, a useful indication of the lower limit of gross capital formation of the company.

The following table gives the composition of loan capital for the years 1958 and 1959.

COMPOSITION OF LOAN CAPITAL

Type	1958		1959		Percent change for two years
	\$	Percent of total	\$	Percent of total	
<u>Total</u>	<u>26 852</u>	<u>100.0</u>	<u>37 475</u>	<u>100.0</u>	<u>+39.6</u>
Debentures	16 362	60.9	26 121	69.7	+59.6
Mortgage loans	33	0.1	30	0.1	- 9.1
Credit on head office account	6 883	25.6	7 244	19.3	+ 5.2
Bank Loans and over drafts	1 559	5.8	1 676	4.5	+ 7.5
All other loan capital	2 015	7.5	2 403	6.4	+19.3

/In 1958

In 1958, the proportion of paid up share capital and debentures to total capital was 78.4 per cent. In 1959, this proportion increased to 81.3 per cent indicating, not substitution, but a change in fixed capital employed. This change suggests increase capital intensity with a consequent change in the proportion of fixed and working capital. If, however, the proportions of fixed and working capital are being maintained then debentures provided working capital.

The above analysis assumes that these figures refer to a single establishment or firm. Therefore, it does not necessarily follow that the same situation applies among pioneer establishments, as the figures apply to a group rather than a single established firm.

Local and Foreign Components of Capital

At the end of 1959, local sources of capital had provided \$10.1 million in these establishments, accounting for 17 per cent of total capital used. But despite an absolute increase of \$1.2 million, this proportion represented a relative decline from the 18 per cent in 1958. On the other hand, foreign capital increased by \$10.8 million during the same period, having accounted for \$39.7 million or 82 per cent of the total in 1958, and \$50.5 million or 83 per cent in 1959.

So far as the supply of capital is concerned, foreign participation dominates the scene, and it would appear that this increased somewhat over the two year period. This is indicated both by the absolute and relative increase in foreign capital. In comparison, local participation was small and its share in the total appeared to have declined. However, the absolute increase is worth noting; it denotes a 13 per cent increase in local capital over the two-year period as compared with an increase of 27 per cent for foreign capital over the same period.

SOURCES OF CAPITAL - LOCAL AND FOREIGN

Capital	1958		1959	
	\$	Percent of total	\$	Percent of total
Total capital				
Of which				
Local	48 576	100.0	60 632	100.0
Foreign	8 905	18.3	10.095	16.6
Foreign	39 671	81.7	50 537	83.4
Paid up share				
Capital-total	21 724	100.0	23 157	100.0
Local	6 087	28.0	6 764	29.2
Foreign	15 637	72.0	16 394	70.8
Loan capital-total				
Of which				
Local	26 852	100.0	37 475	100.0
Local	2 818	10.5	3 331	8.9
Foreign	24 034	89.5	34 143	91.1

Share Capital

A breakdown of these figures into share and loan capital gives a better picture of the degree of local and foreign participation. Of the paid up share capital utilized in 1958, 28 per cent came from local sources and 72 per cent from abroad. In 1959 the absolute amount raised locally increased by \$0.7 million and the corresponding increase for foreign capital was \$0.8 million so that while the proportion raised locally increased to 29 per cent that raised abroad decreased to 71 per cent.

Here the situation is somewhat different from that observed under total capital. While the degree of foreign participation is greater than local participation in both years, there is an increase in the

/proportion of

proportion of locally generated share capital in 1959. This however, should be kept in its proper perspective, as despite a diminishing proportion of foreign share capital the absolute increase is still greater.

Loan Capital

Of the total loan capital in use in 1958, 10 per cent was contributed locally and 90 per cent came from foreign sources. During 1959, while foreign loan capital increased by \$10.1 million and accounted for 91 per cent, local capital showed an increase of \$0.5 million and was responsible for a reduced proportion of 9 per cent.

It would appear, therefore, that foreign loan capital is increasing at a much faster rate than local capital. Not only did the proportion of foreign loan capital increase but what is far more important, the absolute increase was 20 times as great as that for local loan capital.

These rates of increase must be viewed in perspective. Normally it would be expected that loan capital used as working capital would be raised, probably under foreign guarantee, from local financial institutions. The above proportions belie this. The peculiar distribution of loan capital as between debentures and other forms of loan capital is an unusual one, and largely accounts for the disparity in the relative rates of increases in local and foreign sources; further, one large foreign controlled establishment accounted for 96 per cent of all debentures, and debentures are rarely utilized as working capital.

	<u>1958</u> <u>\$000</u>	<u>1959</u> <u>\$000</u>	<u>Percent</u> <u>change</u>
Loan Capital	10 490	11 353	8.2
Local Sources	2 198	2 356	7.2
Foreign Sources	8 292	8 997	8.5

If the figures for debentures are removed from loan capital then, for the 52 pioneer establishments, total loan capital in 1958 will be \$10.5 million of which \$2.2 million in local and \$8.3 million foreign. In 1959 the total will be \$11.4 million with local sources accounting for \$2.4 million and foreign sources \$9.0 million, with rates of increase of 7 per cent and 9 per cent for local and foreign sources respectively.

/In recent

In recent years the commercial banks have been providing a limited amount of capital either on fixed term or regularly renewed overdrafts. The fixed term loans are generally in the range of up to three years, although a few five year loans have been made. The renewable overdraft system is extended as a facility to old customers with a good credit record, for persons with adequate collateral and those with first class overseas backing.

Many applicants for loans for industry are turned down by the commercial banks because they are unable to meet the stringent credit ratings demanded by these banks. Many bankers feel that there is a need for an industrial bank which must devote itself especially to the provision of industrial credit especially of a long term and medium term nature. A recent report on the need to establish an Industrial Development Bank has claimed that manufacturers have expressed views which reinforce those of the bankers in respect of the need for such a Bank. The manufacturers claim that reliance on credits from commercial banks has left their enterprises seriously under-capitalized and many have been unable to raise a loan of sufficient size to get started.

Apart from loan capital supplied by overseas parent companies, a few large international financial institutions provide a modicum of industrial capital. These are:

- (1) Barclays Overseas Development Corporation Limited
- (2) Chase International Investment Co. Inc.
- (3) Commonwealth Development Corporation, and
- (4) Commonwealth Development Finance Corporation.

These institutions do not and are not likely to cover the whole field of industrial credit. Most of these corporations operate in a scale which disqualifies all but the larger manufacturing enterprises in Trinidad. Most of them are prepared to deal in sums of less than one million Trinidad and Tobago dollars.

As a result of the expressed shortage of industrial credit the country is in the early stages of preparation for the establishment of an Industrial Development Bank. This Bank is not expected to be in

/direct competition

direct competition with the commercial banks which will continue to supply working capital on the limited overdraft system and leave longer term capital financing to the Development Bank.

The creation of the I.D.B. will introduce more flexibility into many manufacturers financing plans and provide more risk capital to new and fledgeling enterprises. It will be of particular value to small enterprises which cannot be financed by the established institutions at present in the field.

The Industrial Development Bank will be capitalized by contribution from Government private enterprise and loans from international agencies. In this way it is hoped that a major objective of Government policy greater local participation in industry - will be achieved.

In the past the low level of savings, the custom of financing expansion of enterprises through loan on Head Office Account and the high level investment in the oil sector have resulted in a low level of local participation in investment. The Government has become increasingly concerned about the imbalance between foreign and local participation and is endeavouring through the provision of industrial finance to encourage risk taking by local entrepreneurs. It is in this field that the Industrial Development Bank is expected to make its greatest contribution to industrial growth as it will concentrate its operations on the expansion and modernization of indigenous enterprise as well as encourage the participation of local entrepreneurship in new enterprises.

Owing to local market limitations and the consequent problems of scale the role of an export sector must play in the structural transformation of our economy, it is absolutely necessary to accept capital and expertise from whatever source it could be obtained. The Industrial Development Bank will, therefore, not confine itself to loans to indigenous enterprises although its major concern will increase local participation in the manufacturing sector.

Wherever possible the Government's policy to foster joint ventures in which enterprises are owned and managed by local and foreign interests.

Employment

Data are available on employment in the manufacturing industry on a current basis only in respect of firms employing ten persons and over; the following analysis therefore applies only to these firms.

In 1957 of the total number of workers employed in the sector 32.5 per cent were engaged in the manufacture of food, drink and tobacco; 14.3 per cent were employed in the working of textiles and wearing apparel; 6.4 per cent were preparing building materials while the other manufacturing industries absorbed the remaining 46.8 per cent. See the table at the end of this section.

During the period 1957-1965 employment by these large firms increased by 63 per cent or an average of 6.3 per cent per annum. The greatest increase took place in the textile and garments industry where employment increased from 1,450 to 3,050 or an over-all increase in the 110 per cent. As was stated earlier there was a rapid increase in the manufacture of wearing apparel associated with the drive towards import substitution, hence the relatively large increase in employment. Food, drink and tobacco registered the slowest rate of growth in employment of 3.6 per annum. Employment in this industry fluctuated in accordance with fluctuations in the availability of raw materials e.g. the citrus industry and with demand conditions e.g. the rum industry.

Employment in the building materials industry increased over the period by an average annual rate of 5.4 per cent. Between 1961 and 1963 there was a decline in rate of construction which was reflected in the building materials industry. In 1964 there was a parallel rise in construction of employment in the manufacture and building materials and reached a peak figure of 1,050. Indications have been, however, that during 1965 the number employed in this industry was somewhat lower than in 1964. The other manufacturing industries absorbed an additional 3,400 or 85 per cent over the 1957 figure, this figure includes employment in a new petrochemicals factory which was not in existence in 1957.

Generally it is considered that in view of high expectations from this sector in terms of additional employment opportunities and in view of the efforts made to diversify the economy employment did not increase

/in the

in the manufacturing sector at a satisfactory rate. This shortfall may be partly accounted for by the capital intensive nature of most of the industries being established and the fact that marketing difficulties are being experienced thereby acting as a deterrent on expansion of existing industries.

EMPLOYMENT IN THE MANUFACTURING SECTOR DURING THE
PERIOD 1957-65

Industry group	May 1957	May 1959	May 1961	May 1962	May 1964	May 1965
Food	1 994	2 166	2 268	2 366	2 485	2 824
Beverage and tobacco	1 287	1 491	1 617	1 575	1 572	1 534
Textile and garments	1 447	1 748	1 914	2 045	2 953	3 031
Building materials	643	773	835	800	1 044	982
Other manufacturing industries	4 696	6 550	6 741	6 576	7 539	8 092
<u>Total</u>	<u>10 067</u>	<u>12 728</u>	<u>13 375</u>	<u>13 362</u>	<u>15 593</u>	<u>16 463</u>

Location of Industry

Trinidad is a small island with a relatively highly developed road network. In spite of this, however, there is a high degree of concentration of the population.

Location of industry has tended to follow this concentration of population which itself is a result of the geographical location of our main industries - oil in the south of the island, sugar in the central plains, miscellaneous manufacturers in the north-west where the administrative and commercial activities are concentrated.

The extensive oil refinery complex is located in the oil producing area and even though refining operations are now based more on imported crudes than on indigenous crudes expansion of refinery capacity has followed the old location patterns which existed in close proximity to the source of production.

/Similarly the

Similarly the sugar refineries are located in the midst of the sugar areas. Because of the severe social problems created by the drift of population away from agriculture into the urban areas and further because of the incentive policies of the government and the criteria used for granting pioneer status with its attendant concessions the location of industry is given special consideration in industrial development.

In the most urban part of the country there is a deliberate transfer of the population to make land available for development of industrial sites to be rented to new industries at low rentals. This policy is designed to achieve the following important objectives:

1. The relocation of the most poorly housed sections of the urban population in more hygienic conditions and locations.
2. The release of the vacated lands for the purpose of concentration of industries. This concentration is expected to minimize operational cost from the point of view of the supply of services - electricity, water, telephone, road communication to markets and ports and inter-industry communication.
3. Location of industry as near as possible to population centres from which labour can be drawn. For this reason there has been deliberate decentralization of industrial estates which take into account the employment levels in various parts of the country.

Section

The Major Sectors of Manufacturing Industry

The manufacturing sector falls into six subdivisions. These are:

Petroleum Refining and Extraction

Sugar Refining

Other Food Manufacturing

Drink and Tobacco

Other Manufacturing

/Petroleum Refining

Petroleum Refining and Extraction

This sub-sector of manufacturing dominates the entire sector owing to the production of indigenous crude petroleum and a larger refining complex based on imported crudes from Venezuela, Saudi Arabia and Colombia. Natural asphalt is extracted from a lake which is one of three known to exist in the world. Together these three operations account for 73.46 per cent of the output in value terms of the entire manufacturing sector.

The petroleum industry is geared almost entirely to export markets as domestic consumption is only a very small percentage of total production. Since 1960 there has been a dramatic increase in the importation of crude petroleum to the industry. This is associated with the extensive extensions to domestic refinery capacity. The throughput far exceeded local production of crude petroleum and resulted in a shift of supply from local to foreign courses.

There is an increasing trend in the ratio of imported to indigenous crude. This is due to the absolute decline in indigenous production which has started in very recent times. Domestic production which grew rapidly since 1956 was associated with the discovery of a high yielding marine field. This source of supply was of such magnitude that it increased total production in spite of lagging land production. However, the marine field has now been fully delimited resulting in the levelling of marine production and an absolute decline in total production.

The problems caused by an absolute decline in crude production have been aggravated by a steady decline since 1961 in the world price of crude and refined petroleum. Evidence of the downward drift of prices of crude petroleum and as a result, petroleum products can be shown by the following table:

WEIGHTED AVERAGE POSTED PRICE TRENDS OF CRUDE
OIL FROM JANUARY TO JUNE - \$ PER BARREL

	1958	1959	1960	1961	1962	1963	1964	January-June 1965
Gulf Coast	450	440	454	456	440	436	432	423
	518	504	495	488	473	466	450	434

/The first

The first series charts the steady decline, after some improvement in 1960 and 1961 of the average value of locally produced crude oil. This series of prices is based on prices obtaining in the United States Gulf Coast area and therefore reflects the relatively stable conditions existing in the protected United States market, where the market for the lighter petroleum products continues to be from. Trinidad's fuel oil finds a ready market in the United States Eastern seaboard under a quota management for this product. The importation of other petroleum products to the United States market are virtually prohibited. Recent actions by the United States Government to protect its balance of payments position create even more difficulties e.g. United States based companies are now required to supply a greater share of the requirements of the United States Armed Forces even where off-shore procurement is cheaper.

The second series of prices illustrates the behaviour of prices of petroleum originating in the Caribbean. This series shows an uninterrupted downward trend since 1958.

Most of Trinidad's exports of petroleum consist of refined products which show a greater resistance to price decline than crude. The complexity of our refinery operations provide the country with some protection against the continuous erosion of prices. This insulation is however challenged by the changing pattern of location of world refining capacity. The strong movement to locate refineries in consuming centres is a serious challenge to the capacity of the Trinidad industry which supplied markets in which most of the new refineries will be built in the future. Even the small English speaking Caribbean market which Trinidad traditionally supplied is being gradually lost to refineries which are being built in their small domestic markets.

Trinidad and Tobago's oil industry is suffering in recent times from a third problem. It has been estimated that the value added through the refining of indigenous crude petroleum far exceeds that added by imported crudes. The prices extent of this difference is extremely difficult to measure but, the fact that foreign supply is gradually displacing the local content of the refined products has serious implications on the profitability of operations and the consequent effects on Government revenue and employment in the country.

/The following

The following tables give the production of exports and imports of crude petroleum and petroleum products between 1952 and 1965 in physical terms. (See Appendices 5 and 6).

Demand projections for this industry on present knowledge are not very optimistic. It is true that world demand is expected to grow by about 7 per cent in the near future but this growth in demand is expected to be countered by an equivalent or even greater growth in supply. This is the result of the rapid expansion of product in the Middle East and the new oil producing areas of Algeria, Lybia and Nigeria. The United States and Venezuela are expected to register smaller increases than these areas but increases nonetheless. The net result is a somewhat pessimistic forecast for world prices, which Trinidad with its tiny percentage 0.5 of world output and therefore a price taker in the truest sense of the word, cannot hope to affect.

The oil producing and refining industry is an extreme example of capital intensity and this characteristic deepens with further stages of refining. As such although the value added by oil is higher than in any other industry or sector of the economy, it is a relatively small employer of labour. The industry employs only 17,000 people at present and shows a declining trend especially with the shift to marine production in recent years.

The level of technology is characteristic of oil producing countries throughout the world but there is scope for an improvement in known and improved or new methods of secondary recovery in the industry in order to increase the level of proven reserves in the country. This is a matter of crucial importance as unlike the Middle East and other areas, Trinidad's proven reserves are particularly low.

Technology in the refineries is however very high as very modern equipment has been installed. Labour efficiency and productivity are reportedly very high. This is not unexpected as our oil industry is one of the oldest of its kind in the world.

Trinidad's geological structure is known to be particularly complex and the movement to marine based drilling makes severe demands on the state of technology in existence. The fact that Trinidad's wells are

/not as

not as prolific as other areas (averaging 34 barrels per day) the country is known to be a high cost producer. Only the application of advanced technological research and progress within the industry and at an international level could successfully narrow the cost of production between us and other oil producing countries.

The development problems of this sector are closely associated with the expansion of crude production. This rests entirely on the discovery of new fields, reactivating abandoned wells through secondary recovery and expansion of refinery capacity which is a function of the world marketing patterns referred to above. All these have such a high element of uncertainty that no realistic forecast can be made which will shed light on the growth of the industry.

Sugar Refining

This is an old industry in the country and suffers from all the common problems faced by the same industry the world over. In 1965 the industry produced 265,000 tons all of which with the exception of 30,000 tons are exported.

This industry markets its sugar under the Commonwealth Sugar Agreement and enjoys a price well in excess of world levels. The industry, however, supports the largest percentage of labour outside the public sector and is for this reason of strategic importance. The sugar industry which of course includes growing as well as refining employs about 23,000 people.

The level of technology of the industry is capable of significant changes especially in converting from its present labour-intensive measures to more capital-intensive ones. Reaping and control of pests for example can be mechanized and thus eliminate large numbers from the labour force. This movement has already begun with the pressures caused by persistent low world prices, the uncertainty of the existence of preferential prices associated with the new world demands for dismantling of preferential systems and the rise in wages in the industry.

Although Trinidad is capable of increasing its output of sugar considerably, the gloomy outlook for prices associated with the recovery of Cuban production and the uncertainties of the Commonwealth market

make this course of action imprudent. Trinidad cannot produce sugar economically at the present levels of world prices and remains a producing country only as a result of the preference we enjoy under the Commonwealth Sugar Agreement. Cost of production in Trinidad is \$192 per ton. The 1965 world price was \$86.40 per ton. Even with application of improved technology it is very doubtful that this gap could be closed.

Other Food Manufacturing

This is a heterogeneous group of manufactures geared largely to the domestic market. This section contains the traditional items like bread and cakes, confectionery, aerated beverages etc. It also contains canning and food processing industries which are the most dynamic ones of the group.

In recent years the canning of pigeon peas has led to a large expansion of the growing of this product and to an export market in the United States of America, England and other Caribbean countries. Success in this product has led to the experimentation with other local vegetables which could develop into a profitable export product.

Drink and Tobacco

In relation to the entire sector the output of this subdivision is very small. In 1962 it produced about 2.37 per cent of the entire manufacturing sector. Its output is consumed locally except for a small proportion which is exported to the United Kingdom, Canada and the West Indian islands. The sector contains rum which is a by-product of sugar manufacture. A considerable portion of this product is consumed locally and the rest that can be marketed is sold in Canada and the United Kingdom.

Trinidad's rum, however, suffers from deceptive labelling practices in other countries and from stiff import duties in major importing countries. Efforts to curb tourist expenditure in an effort to minimize the balance of payments difficulties have induced the United States Government to curtail severely the amount of rum an American tourist can take back to the United States of America.

/Although no

Although no statistical estimate has as yet been made of the loss to the industry by these restrictions it is clear that these obstacles have a very restrictive effect on the growth possibilities of these industries.

Angostura Bitters, a world famous flavouring produced in Trinidad also shares some of the problems which rum faces in the external market. In some countries this product is classified as alcoholic beverage and thus subjected to very steep duties. Reclassification of this item could lead to considerable expansion in export markets.

The manufacture of cigars and cigarettes has up to recently been entirely dependent on raw tobacco from foreign sources. Small experimental plots of tobacco have confirmed that this plant can be successfully grown locally and expansion of acreage will certainly reduce imports though it is not expected that exports will be displaced in the near future.

Other Manufacturing

This subdivision of the manufacturing sector holds a place of importance in the economy as a whole because it embraces the wide range of industries sponsored under the Aid to Pioneer Industries Ordinance.

The industry which has attracted the highest capital investment and which is contributing most to the growth of exports of manufactured goods outside of oil is petrochemicals.

In 1962 petrochemicals consisted of 20.4 per cent of the total manufacturing sector, second only to petroleum production and refining. As the majority of these industries are import substituting (petrochemicals being the major exception) the downward trend in imports of similar industries is expected to continue. In 1962 for example \$136.6 mn of similar products were imported. In 1968 this total is expected to fall to about \$66 mn. Exports on the other hand are expected to show considerable growth due mainly to the anticipated expansion of the petrochemical industry which depends completely on external markets for disposal of its output. In 1962 exports of petrochemicals totalled \$23.1 m. and is expected to reach \$84.0 mn. by 1968. In percentage terms the contribution of petrochemical exports to the entire manufacturing sector is expected to rise from 3.85 per cent in 1962 to 9.1 per cent in 1968.

/The domestic

The domestic factor inputs of this group of industries are very high principally because the industrialization policy places emphasis on the maximum utilization of indigenous raw materials. The petrochemical industry depends on the supply of natural gas which is produced locally in conjunction with crude oil and is also an advanced stage in the refining of petroleum.

At present the petrochemical industry produces 32,000 long tons of anhydrous ammonia per annum. Another 180,000 tons is expected to be produced this year. There is now under construction another extension which will add 220,000 tons of capacity in early 1966. The 32,000 tons of ammonia are converted into solid fertilizers (ammonia sulphate and urea) and are marketed mainly in the Caribbean. The new output is expected to be marketed in North America, Britain and Europe.

Caribbean sales are mainly geared to Costa Rica, Guatemala, Honduras and Nicaragua as well as the English speaking Caribbean. Trinidad and Tobago is very interested in the South American market which should be an even more natural outlet than Central America. However, technical difficulties in the line of shipping have to be overcome.

If market conditions are favourable this industry expects to go into the production of Methanol, Styrene, Naphthalene, Phthalic, Anhydride, Kthylene Glycol, OxoAlcohols, Formaldehyde and Urea Formaldehyde Resins.

Technology

The level of technology in this sector is subject to wide variation. In large establishments which involve the introduction of new and advanced operations the level of efficiency and output per men are high. Many small industries however suffer from problems of inefficient management, cost control, low labour productivity associated with poor skills and a small domestic market which inhibits risk - taking and modernizations. The small scale of operations and heterogeneity of operations make technological research into problems commonly found in these industries difficult and too expensive to pursue.

Prospects for the bulk of industries in this group are closely associated with the scale of operations which hinges on the availability of external markets.

POLICY MEASURES FOR INDUSTRIAL DEVELOPMENT

Government Promotion of Industry

The policy of industrial development pursued by Trinidad and Tobago is clearly set out in the country's Five Year Development Plan 1964-1968 and is summarized here for easy reference.

Commercial Policy

The commercial policy of the Country sets the frame into which industrial development can take place and for that reason the Government clearly sets out in the Plan the main guidelines to its commercial policy. These are:

1. The necessity of taking notice of important repercussions on our economic life by changes in foreign trade arrangements between our country and other countries. This is so because the economy of Trinidad and Tobago is trade oriented to a very high degree.
2. The possibility of a change in our traditional trading relations with the United Kingdom which may still someday enter the European Common Market and thus abandon Commonwealth Preference.
3. The need to maintain a flexible commercial policy which takes cognizance of the ever increasing number of new trading blocs coming into existence - such as the Latin American Free Trade Area and the Central American Common Market. Our commercial policy also strives to take account of the brutal facts of the world of international commerce in which threats are being made by large and prosperous countries to reduce the inflow of our small but growing volume of exports of manufactures and to impose unjustifiable discriminatory measures against our products.
4. The most important motivation is the reason that the successful development of a manufacturing sector and hence the solution of our pressing employment problem is in large part bound up with our finding export markets for our products and our granting of adequate protection to such products on the local market.

/5. Balance

5. Balance of payments considerations also play an important role. The slowing down of the rate of growth of petroleum exports was anticipated and has already begun. Secondly, the re-investment of oil profits which hitherto played a crucial role in equilibrating our foreign balance may not always continue at the same rate and will, if it happens, limit our ability to manoeuvre in respect of balancing our international payments. Thirdly, a continued high rate of capital formation requires a high rate of imports of machinery and equipment since we do not produce domestically.

The main elements of our commercial policy are as follows:

- (i) In the light of the small size of our domestic market, the maintenance of a relatively open economy, that is to say, the minimum of official interference with the freedom of imports and exports, subject of course to the necessities of economic development.
- (ii) The use of a moderate degree of tariff protection for our domestic industries.
- (iii) The granting of facilities for repatriation of profits and capital to such enterprise as are considered to make a contribution to our economic development.
- (iv) Our recent accession to the G.A.T.T. in our own right shortly after we attained Independence in 1962 - the United Kingdom having accepted the obligations of the Agreement on our behalf at that time.
- (v) Our adherence to the system of Commonwealth Preference.
- (vi) Our adherence to International Commodity Agreements, such as the International Coffee Agreement.
- (vii) The participation of Trinidad and Tobago in a wider regional economic grouping; and
- (viii) The conscious cultivation of new markets especially for our manufactures.

/The foregoing

The foregoing has been a description of the commercial policy under which the industrialization programme operates. We shall now turn to specific characteristics of our industrialization programme. The main policy features of this programme are:

- (a) to encourage the expansion of all locally based industries which operate either under or without the protective umbrella of "pioneer industry" status; and
- (b) the creation of a fast growing complex of new industries through the granting of generous incentives under the "Aid to Pioneer Industries Act".

The incentives offered to local and foreign investors include the following:

- (i) an income tax free period from the start of operations;
- (ii) accelerated depreciation allowances;
- (iii) unlimited carry-forward of any losses that may be incurred during the income tax free period into the subsequent taxable period;
- (iv) repatriation of capital and profits for foreign investors;
- (v) duty free entry of plant, equipment, raw materials and supplies; and
- (vi) developed industrial sites on liberal terms.

Some industries are, however, established without the assistance granted under pioneer status and qualify for concessions which do not go far beyond duty free entry of imports of machinery and of raw materials.

It is necessary to emphasize at this point that the harsh realities of the economic structure of Trinidad and Tobago and the direction in which future growth appears to be possible make these liberal concessions inevitable. Careful study of the cost structure of most industries which we set out to attract to the country reveal that without the concessions they will be unable to compete with competitive imports and in foreign markets.

The concessions were therefore designed with two major objectives in mind. These are to keep down production costs to a level that gives the infant import substituting industries the chance to compete successfully

/with competitive

with competitive imports and secondly, to promote exports which in any case are far more risky than production for the domestic market. A cost advantage is vital to the existence in this latter sphere.

Tariff Protection

Prior to 1962, the year of our national independence, the tariff structure of Trinidad and Tobago was designed to meet the needs of a colonial economy which typically was one conceived as an importer of food and manufactured goods in exchange for exports of primary commodities or agricultural staples.

The tariff structure also took into consideration the revenue needs of the Government of the day. There was, however, no prime consideration with the conscious protection of indigenous industries apart from those industries which were sponsored under the "Aid to Pioneer Industry Ordinance" of 1950. Under this Ordinance specific tariff concessions were granted to specific industries if they could prove to the authorities that the lowering or abolition of tariffs on their raw materials or other inputs was essential to the survival of the infant industry.

In 1962, however, there was a radical departure from the old tariff structure which had the lowest level of tariffs in the English speaking Caribbean. Some of the aims of the 1962 tariff review were to:

- (1) minimize the import of non-essential commodities so as to make more foreign exchange available for the purchase of capital goods;
- (2) provide adequate protection from foreign imports to domestic manufacturers and as a consequence to foster developing industries and increase employment;
- (3) minimize the production costs so as to encourage industry to be competitive especially in view of the restrictions of the domestic market. This consideration resulted in the freeing of all plant and machinery for use in the field and factory from duty requirements.

The change of the tariff structure recognized the need to encourage the development of export-oriented manufacturing industries. The change also took cognizance of the fact that a capital goods industry was not likely to be established in the country in the foreseeable future.

Duties on raw materials were minimized. In cases where concessions were granted to specific industries, especially those granted under the "Aid to Pioneer Industry Ordinance" and related regulations, the concessions were retained. The rate of duty on this class of imports was set at 15 per cent Preferential (for Commonwealth Countries) and 25 per cent General (for Non-Commonwealth Countries).

The protective tariff extended to a wide range of domestic industries. These included the textile and garment industries, the furniture, brewing and distilling, processing and packaging and petro-chemical industries, secondary industries based on agriculture, e.g. poultry killed and dressed, and coffee and cocoa extracts.

The following is a list of vital industries which got increased protection by way of increased tariffs on competing imports:

	<u>Old rates</u> <u>Prior to 1962</u>		<u>New rates</u> <u>1962 onwards</u>	
	<u>Pref.</u>	<u>Gen.</u>	<u>Pref.</u>	<u>Gen.</u>
<u>Manufactured Goods</u>				
Outer wear, other than knitted	11½%	23%	25%	35%
Wood, furniture and fixtures	11½%	23%	20%	30%
Metal - do -	11½%	23%	20%	30%
Furniture n.e.s.	11½%	23%	20%	30%
Beer and Ale	1.05 per gal	1.68	1.50 per gal	2.25
Rum bottled, not over-proof	9.57 per gal	10.85	11.96 per gal	13.56
Rum bottled, other	10.86 per gal	12.20	13.58 per gal	15.25
Gin bottled, not over-proof	17.25 per gal	18.15	21.56 per gal	22.69
Gin bottled, other	20.25 per gal	21.15	25.31 per gal	26.44
Poultry, killed or dressed	Free	50¢	5%	10%
Coffee (roasted extracts)	4¢ per lb	12¢	15%	25%
Cocoa powder	4¢	12¢	15%	25%
Prefabricated buildings	11½%	23%	20%	30%

/Old rates

	<u>Old Rates</u> Prior to 1962		<u>New Rates</u> 1962 onwards	
	<u>Pref.</u>	<u>Gen.</u>	<u>Pref.</u>	<u>Gen.</u>
<u>Manufactured goods</u>				
Prefabricated buildings	11½%	23%	20%	30%
Watches with precious metals and cases			30%	45%
All other watches			20%	30%
Phonograph parts, electric	11½%	23%	20%	30%
Phonograph parts, non-electric	11½%	23%	20%	30%
Gramophone records, pianos, piano playing and parts	11½%	23%	20%	30%
Domestic electric appliances and parts	11½%	23%	20%	30%
Domestic refrigerator, beverages and water coolers and parts	11½%	23%	20%	30%

Duty was abolished on a wide range of imports in recognition of the need to make domestic industry competitive with similar industries in other countries. The following is a list of imports which were freed from duty irrespective of the country of origin:

- (1) industrial plant and industrial machinery for factory use;
- (2) agricultural tools and implements;
- (3) field crates, picking bags and juice preservations for use in the citrus industry;
- (4) containers of all kinds (except of a class or type not manufactured locally) which are imported for use exclusively as containers for the packaging of local produce or manufacture;
- (5) goods made from Sea Island cotton bearing the mark of the West Indies Sea Island Cotton Association;

/(6) fishing

- (6) fishing nets and gear, fishing lines, wire fish hooks, seine, twine, synthetic netting, and pine tar for use in the fishing industry;
- (7) artist's colours;
- (8) stringed, wind, percussion and other musical instruments not specified;
- (9) insecticides, fungicides and other substances for use as remedies for disease of, or preventives of, insect attacks on plants and livestock; and apparatus for spraying livestock or plants with such substances;
- (10) weed killers and vermin killers;
- (11) soil conditioners;
- (12) pipes and fittings, accessories including printers' ink, newsprint paper, printing blocks, matrices, printing type and printing type metal imported by and for the use of the printer in his trade and not for resale.

In more recent times more effective measures of control in the imports of manufactured goods have been instituted by the introduction of quantitative restriction of imports of manufactures in competition with local industries.

Industries which are experiencing severe market difficulties as a result of the lack of external market and the smallness of the domestic market can make an application to the Industrial Development Corporations to have its product put on the negative list. If the Industrial Development Corporation is satisfied with the legitimacy of the complaints of the industry an affirmative recommendation is put to the Ministry of Industry and Commerce which may accept the advice of the Industrial Development Corporation.

The negative list consists of a list of products for which special licences must be obtained by importer to import foreign made goods of identical or similar nature. The list is constantly under review and is extended to meet the developmental needs of the country.

There are no other forms of import control specifically related to industrial promotion. The effects of the tariff measures are not fully felt as yet as they have been in operation for less than three years. However, it can be generally said that the primary objective is to get the industries which were faltering in the face of severe external competition in a viable position. This was particularly true for such industries as textiles and food processing. These industries have not yet overcome their difficulties but it is anticipated that the quantitative restrictions placed on the hitherto competing imports will greatly assist in the regeneration of these industries.

In other industries in which even the local market is inadequate for the minimum scale of operations the contribution to their viability made by exclusiveness of the local market is even more pronounced. In such industries the assurance of the exclusive access to the local market minimizes the search for an export market which must be found for the difference between the requirements of the local market and the minimum economic output of the industry. Such an industry is the motorcar battery industry which must find an export outlet for a substantial percentage of its output over and above the maximum domestic demand if it is to survive.

The smallness of the local market is such that it gives a high degree of permanence to these protective arrangements. The fact that the level of technology is still considerably below that of the developed countries and that labour productivity also relatively low, added permanence is given to these protective devices.

Industrial Credit Policy

A very limited study of the requirements of industrial credit has established that there is need for an institution to provide a continuous source of industrial finance for modernization, expansion and establishment

/of new

of new firms. The need is greatest in small indigenous industry which cannot meet the criteria set by the commercial banks in order to qualify for loans under the overdraft system.

The need for this institution is more sorely felt as a major aspect of Government policy is to encourage indigenous entrepreneurship to participate to the fullest in the industrial expansion of the country and no institution exists at the moment to bring forth this latent talent.

In addition to efforts to establish the Industrial Development Bank, Government is presently engaged in changing the Companies Act in an effort to encourage the formation of Public Companies. This will undoubtedly widen the participation of nationals of the country in industrial financing and ownership and further assist in the cultivation of a Stock Market which at present is very rudimentary and inadequate to the needs of the country.

There are three major avenues of credit for local enterprise. Share capital, industrial loan from Industrial Loans Fund administered by the Industrial Development Corporation and the Commercial Banks.

Share Capital

Most small business enterprises finance the provision of fixed assets from the issue of shares to a limited number of shareholders (less than 52) or to an unlimited number, in this case more than 52 which invests the firm into a Public Company.

Many local firms start off as subsidiaries or branches of large international concerns and their source of capital financing is the parent company. In this case little local participation in the financing takes place.

Another, though much smaller source of finance is the Industrial Loans Fund of the Industrial Development Corporation. The object of this fund is to assist in the modernization, expansion and initiation of industrial enterprises. At present the capital of this fund stands at \$2,000,000 and loans not in excess of \$250,000 are made to the small manufacturer to assist him in his operations.

The principles which govern the issue of loans are as follows:

- (a) To supplement rather than replace private capital;
- (b) to use such cash and resources at its disposal in such a manner as to stimulate the flow of additional funds into this field so that the loan capital is used to maximum effect;
- (c) to confine direct investment in equity to exceptional projects clearly of high priority and of great national benefit;
- (d) to lend out to projects which are technically, economically and financially sound having special regard to existing manufacturing capacity in that particular field;
- (e) to lend to industries which are of great benefit to the economy of the country having regard to certain accepted criteria; and
- (f) to lend only for the establishment of new or the expansion of existing industrial production facilities in the country.

The terms and conditions to be applied are that loans must be secured by mortgage on land, buildings and fixed plant and machinery thereon; interest at Government borrowing rates, currently 6 1/2 per cent per annum payable half-yearly on sums outstanding from time to time; repayment generally between 5 and 10 years - principal and interest in half-yearly instalments, the first instalment becoming due one year after execution of the loan.

Finally, loans are made up to 50 per cent of the market value of the land, buildings and fixed plant and machinery offered as security - subject however, to the provision that the loan is limited to 50 per cent of the new investment. Only first mortgages are accepted.

Industrial Policy

In recognition of the importance which the manufacturing sector must assume in the future economic development of the country, generous tax allowances are other fiscal incentives granted in the interest of accelerated industrial development. The concessions granted in respect to industrial development are outlined in the "Aid to Pioneer Industry Ordinance". They are as follows:

- (i) an income tax free period from the start of operations of the pioneer manufacture;
- (ii) accelerated depreciation allowances;
- (iii) unlimited carry-forward of any losses that may be incurred during the income tax free period into the subsequent taxable period;
- (iv) repatriation of capital and profits for foreign investors;
- (v) duty free entry of plant, equipment, raw materials and supplies; and
- (vi) developed industrial sites on liberal terms.

Some industries are, however, established without the assistance granted under pioneer status and qualify for concessions which do not go far beyond duty free entry of imports of machinery and of raw materials.

Methods

The principal instrument for the industrial development of Trinidad and Tobago is establishment of industries under the "Aid to Pioneer Industries Ordinance". Under this Ordinance an industry is declared a Pioneer Industry and qualifies for a number of concessions and protection for a prescribed period of time in order to overcome the major difficulties encountered because of the economic limitations of the system.

Under this Ordinance a Pioneer Industry is one declared to be such by the Cabinet and is, generally speaking, an industry which has not heretofore been conducted in the country on a commercial scale or at all, or any industry for which there is favourable prospect of further development.

A Pioneer Manufacturer is declared by order after Cabinet is satisfied that it is expedient in the public interest so to do. More than one pioneer manufacturer may, in Cabinet's discretion, be declared in any one industry. In this regard, particular attention is given to the number of pioneer factories already established, or about to be established, for the manufacture of the pioneer products involved and the output or anticipated output of such pioneer factories.

/The above

The above Law provides for the following fiscal incentives:

Income Tax Holiday: Five-year income tax holiday with effect from the production day or such other day specified by the Cabinet in lieu thereof. This five-year "holiday" commences, not from the date of the establishment of the business, but from the date when commercial production begins. It means five clear years of untaxed profits. (The present rate of tax on Company profits is 42.5 per cent.) The right of a pioneer manufacturer, being a company limited by shares within the meaning of the Companies Ordinance to distribute during the tax holiday period and within two years thereafter a sum equal to the income arising during the tax holiday period from the pioneer enterprise in relation to which the company is a pioneer manufacturer to the members of the company, and exception of every such sum from the payment of income tax in the hands of such members. That is to say, no tax is charged on dividends declared out of profits within two years of the tax holiday period.

Setting off of losses against Subsequent Profits:

Losses incurred in a pioneer enterprise during the tax holiday period shall be set off against the income arising from the pioneer enterprise during the period or periods immediately following the tax holiday period. Should a pioneer manufacturer who carries on two or more pioneer enterprises incur a loss in any one of such enterprises during the tax holiday period or part thereof which is coterminous with a part of the tax holiday period of any of the others, then the Cabinet may, subject to such conditions as they may impose, direct that such loss be set off without limitations against the income arising from any of the others during the period or periods immediately following the tax holiday of the latter or from the income of the losing enterprise, whichever is the latter whether or not the losing enterprise has ceased to be carried on by such manufacturer.

Duty Free Imports: Five-year exemption from customs in respect of building materials, tools, plant, machinery and other appliances and materials necessary for and used in the construction, alteration and

/extension of

extension of a pioneer factory or for equipping the factory for the manufacture and preparation for sale by the pioneer manufacturer of the relevant pioneer products; excluding, however, articles intended for the purpose of affecting repairs.

Extension of Benefits: The Cabinet may extend, in suitable cases, from five years to a period not exceeding ten years, the time during which a pioneer enterprise may enjoy relief from customs duty and exemption from income tax.

Accelerated Depreciation Allowances: The provisions of the Income Tax (In Aid of Industry) Ordinance apply to all pioneer industries as from the end of the tax holiday period, accelerated depreciation being calculated by reference to original costs.

The Ordinance also stipulates a large number of procedures which must be adhered to by the pioneer manufacturer. For example, in his application for pioneer status specify locality of factory, construction date, agree to start production not later than eighteen months after construction date etc.

Income Tax Relief: The income arising from any pioneer enterprise during the period of five years from the production day or from any other day as decided by Cabinet is exempt from income tax.

Under the Customs Ordinance, Pioneer Manufactures are granted a duty free entry of certain classes of goods. The spirit of this provision is to assist pioneer manufacturers in acquiring their plant, machinery, and crude or intermediate materials at the lowest possible costs. The following table lists the classes of goods, purposes for which they are to be used and the last date on which exemption is operative.

Classification of Goods Their Use and Last
Date on which exemption is operative

Item No.	Classes of Goods	Purpose for which to be used	Last date on which exemption is operative
1.	Raw materials, chemicals other ingredients and supplies and semi-manufactured goods.	Manufacturing processes, including the manufacture of flavouring essences and concentrates for sale as such.	December 31, 1965
2.	Materials, tools, plant machinery, pipes, pumps, conveyor belts, fences and other appliances (not being replacement goods or goods intended for the purpose of effecting repairs except in special circumstances as may be determined by the Minister).	Construction, erection, alteration, reconstruction, extension or equipping of factories for the manufacture and preparation for sale of products.	December 31, 1969
3.	(a) Building materials.	Construction, erection, alteration, reconstruction or extension of hotels.	December 31, 1969
	(b) Articles and equipment (other than articles and equipment for replacing previously entered free of duty except in special circumstances as may be determined by the Minister).	Equipping of hotels.	December 31, 1969
4.	Raw Materials, chemicals, other ingredients and supplies, and semi-manufactured and manufactured goods.	The wrapping, packing, packaging, containing or labelling of goods produced or manufactured locally.	December 31, 1969
5.	Machinery and appliances.	For use in the poultry and livestock rearing industries.	December 31, 1969

Item No.	Classes of goods	Purpose for which to be used	Last date on which exemption is operative
6.	Chemicals and other substances certified by the Petroleum Technologist.	The treatment of mud in oil drilling operations or as regents in the treatment of wet emulsified crude oil.	December 31, 1969
7.	Crude petroleum partly refined petroleums, petroleum products and catalyst materials.	Refining, blending, storage re-export.	December 31, 1969
8.	Catalyst materials.	For use in the manufacture of Industrial Chemicals.	December 31, 1969
9.	Specially adapted vehicles	Distribution of processed milk.	December 31, 1969
10.	Raw materials, chemicals other ingredients and supplies, and semi-manufactured and manufactured goods.	(a) Tanning or dyeing of leather; (b) Laying of mastic asphalt; (c) manufacture or printing of advertising almanacs; (d) preparation or impregnation media for the impregnation of lumber under pressure with chemicals; (e) for use in the Printing Industry.	December 31, 1969

In addition to these measures the Government of the Country through the Industrial Development Corporation reviews the progress of all pioneer industries and extends when the case merits it further concessions to pioneer industry in order to assist them to be viable concerns. As the local market is too small for many operations it often becomes necessary to reserve the entire local market for a pioneer manufacturer. This is achieved by placing on a "Negative list" all imports of the identical or similar nature to the product of the pioneer manufacturer. This quantitative restriction of imports along with the concessions and incentives are very often vitally necessary for the survival of many pioneer industries.

Export Promotion

The Second Five Year Development Plan which is now being executed recognizes the vital role export promotion must play in the development of the industrial sector. The Plan contemplates the creation of an agency under the supervision of the Ministry of Industry and Commerce to give advice to local manufacturers on the export prospects of individual commodities and requirements in foreign markets; locate potential import agents abroad; seeking out new areas for exports; organizing and participating in trade missions and exhibitions.

The Plan also envisages the creation of an Export Advisory Council consisting predominantly of representatives of the private sector. This body's duty will consist of receiving export policy and measures and giving advice to the Government. The Council will send Trade Missions abroad and organize exhibitions.

A good deal of promotional work is done through the country's diplomatic missions overseas. In addition the Industrial Development Corporation has located an office in New York to perform this function, in addition to its other functions of attracting new investment to the country. Another office is to be located in London soon.

Plans are almost complete for the creation of further institutions to accelerate export promotion. In the near future an Export Promotion Company will be formed which will have the responsibility of finding export outlets for a number of industrial products made in Trinidad and Tobago.

Recently the country has taken part in a number of Trade Exhibitions in various parts of the world including South America with the specific goal of disseminating knowledge of Trinidad and Tobago products.

Provisions for Small Industry

Small local industries are commonly beset by problems of finance for extension and modernization and even more so by low productivity arising from poor management and bad industrial relationships.

/We have

We have already outlined the services of the Industrial Loans Funds and the proposed Industrial Development Bank which are geared to alleviate the problems caused by shortage of industrial finance. The Government has in addition recently established the Productivity Centre to meet the management deficiencies in the sector.

The Productivity Centre is a joint venture of the International Labour Organisation and the Government of Trinidad and Tobago. The specific objectives of the Centre are:

- (a) to promote productivity in all forms;
- (b) to provide training in all aspects of the management of industrial enterprises, as well as of Public Utilities, Transport Services, etc.;
- (c) to develop advisory and consultant services for industrial and other enterprises;
- (d) to carry out research on the practical application of modern management techniques in local conditions and to provide up-to-date documentation on modern management practice.

To achieve these objectives, the Centre will be staffed with specialists in the fields of Industrial Engineering, Management, Accounting, Marketing and Sales and Supervisory Training.

The Productivity Centre will eventually incorporate the Technical Assistance Unit of the Industrial Development Corporation whose function at present is to give technical assistance to the very small industrialist and the single individual hoping to establish or modernize a small firm. The Technical Assistance Unit is assisted by a Technical Advisory Committee which consists of such specialists and accountants, industrial chemists and industrial engineers.

These small industries can also take advantage of the provision of cheap industrial sites made available at token rentals. The Industrial Development Corporation develops sites and even has the authority to build factories for rental at low rates in order to minimize the initial overheads and subsequent running costs of small enterprises.

/Private Enterprise

Private Enterprise in Industrial Programming

In formulation of an industrial development policy all interests in the country are consulted and their needs accommodated in the formulation of the programme. In setting industrial targets all the major enterprises in the industrial sector were consulted about their expansion plans and their special difficulties. Policy measures were introduced in order to assist these establishments in achieving the targets set by the National Planning Commission.

Apart from Governmental consultation private enterprise exercises a fair amount of initiative in measures which contribute to the development of the industrial sector.

For example, wherever there is a crying need for some institution or policy measure to be taken in the interest of industrial development, insistent representations are made to the relevant authorities, in many cases the highest planning authority in the country with effective results.

In the private sector, organizations such as the Chamber of Commerce, Manufacturers Associations, Agricultural Societies and business representatives of various kinds, often initiate discussion with Government or plead insistently for the establishment of institution or imposition of protective measures for domestic goods under destructive foreign competition.

In the formulation of the Five Year Development Plan all interested private groups are given an opportunity to criticize and suggest alterations which are consistent with national and sectoral development, the latter in subordination to the former.

Manpower Training Programmes

Trinidad and Tobago has never conducted a manpower survey to establish the extent of the country's manpower requirements. The plan recognizes the need for this information as a prerequisite to planning in the field of technical training and vocational education. Work is, however, being initiated on projections of supply and demand for various categories of professional, technical and skilled personnel for the entire economy.

/In spite

In spite of this deficiency in knowledge there is clear evidence of shortage in nearly all fields - professional, technical and administrative at the level of both the public and private sectors.

The programme of technical training administered under the Five Year Development Plan 1964-1968 makes a distinction between three kinds of specialized workers; the professional, the technician and the craftsman. The Plan recognizes the craftsman as the greatest need of the country numerically but considers the shortage of technicians more strategic.

As far as skilled trades or crafts are concerned, it is generally recognized that inadequacies of most urgent and glaring sort exist at the moment and have existed for some time past, in training standards. This is manifested in the high ratio of semi-skilled and unskilled to skilled personnel to be observed in most branches of industry requiring workers possessing industrial skills, and the overwhelming preoccupation with technical supervision which is inevitably necessary at all levels down to the very lowest.

This view was supported by surveys conducted by the manpower Division of the Ministry of Labour. In the April 1960 survey, it was established that high proportions of inadequately skilled workers (in occupations classed as skilled) were employed in establishments in all branches of economic life. In manufacturing the proportion stood at 22 per cent.

A subsequent and further analysis of the survey in the "Report to the Premier of the Committee on Vocational Training, January 1961" showed that of the low proportions of inadequately skilled workers receiving any form of training, the proportion undergoing formal apprenticeship training were pretty low in all fields apart from mining, dairying and commerce. The Committee Report highlighted the fact that by far the greater part of such training as is being received by workers in need of it does not follow any laid down, generally acceptable standards.

The Committee Report points out that the conclusions with respect to vocational training refer to relatively large establishments. They were derived from a survey of 378 establishments each employing more than 30 persons. The situation in respect of smaller establishments was likely to be even less satisfactory.

/The above

The above assessment has not as yet lost its validity although remedial measures have been programmed in the Five Year Development Plan. The major institutions through which a transformation of the situation is planned are the John S. Donaldson and San Fernando Technical Institutes situated in the North and South of Trinidad respectively. There will also be complementary Vocational Schools for the purpose of providing industrial and agricultural training to young people between 15 and 18 years old. The existing Trade Schools at the United States Base at Chaguaramas will be maintained and another in Point Fortin will be expanded.

The Plan envisages the use of these schools chiefly for the provision of full time pre-apprenticeship courses for school leavers entering the trade (attendance at the schools counting towards the total period of apprenticeship).

In addition to facilities outlined above it is planned to organize the apprenticeship system which was based on outmoded British practices. One of the objectives of the reform of the apprenticeship system in the shortening of its duration, the length of which often acts as a deterrent to the acquisition of skills. The vital co-operation of employers and trade unionists is expected through participation in the formulation and planning of programmes for vocational and commercial training. This is absolutely necessary in order to achieve easy absorption of trained people in industry, commerce and banking.

Technological Research

So far as technological research is concerned, the country has always been highly dependent on research done by outside organization, by foreign companies in relation to their own problems or by foreign experts asked to carry out specific assignments.

In the field of industrial development the two basic requirements are research into the application of scientific knowledge to the development of technologies suitable for relatively small industrial establishments and to the development of new uses for raw materials that are either available or can be produced locally.

/The first

The first requirement arises from the need to adapt technologies designed for larger industrial countries where labour is in short supply relative to capital so as to serve economically the needs of markets where capital rather than labour is in short supply. In this connection, the most relevant fields for research would include food processing techniques suitable for relatively small markets; food preservation and canning techniques for tropical products and for tropical climates; storage techniques for crops and processed food products in tropical climates; and the re-designing of manufacturing equipment or the adaptation of manufacturing processes to take account of the special needs of small markets and of the existing local proportions between labour and capital.

The second requirement relates to the processing of our raw agricultural products. Here, the priorities would include research into the commercial uses of local plants and herbs for food, pharmaceutical and industrial purposes; into the industrial uses of waste products of existing industries, e.g. sugar refineries, distillers, food processing plants and petroleum refineries; into the processing of lake asphalt for industrial uses; into the development of building materials from local raw materials; into the improvement of techniques both of building and of road construction with special reference to the reduction of construction costs.

Some of these projects are of a long-range character but in others it might be possible to secure results of more immediate applicability. There is a clear need for a Government institution to investigate on a continuing basis some or all of the areas suggested above. No financial provision is made for such an institution in the programme, but, taking into account the possibilities of securing outside assistance in its establishment and staffing, the Government will keep the matter under review.

In order to fill this vital gap in industrial research the Five Year Development Plan envisages the expansion of research facilities in industrial problems at the national university. It is expected that soon there will be established in the University in Trinidad an Industrial Research Centre as part of an already operating College of Arts and Science.

/In spite

In spite of this expected development the country will still have to rely to a considerable extent on the research done by large companies and foreign experts. The petroleum industry, for example, undertakes a great deal of research in petroleum technology. There is, however, a counterveiling deficiency of knowledge in Government Ministeries owing to the acute scarcity of personnel to initiate or assess developments in petroleum technology.

The Government has therefore to rely on foreign expertise especially from non-Government sources such as the United Nations Special Fund to meet this acute need.

Apart from these technological problems there is a crying need for a country like ours with its very small domestic market for research into the suitability of existing and potential products for export markets and the demand patterns for industrial goods in both the developed and the developing countries in our neighbourhood.

Although there is need for increased research, there is also the need to co-ordinate and publicize the research taking place within the country and new advances taking place outside. It is, therefore, planned to establish co-ordinating machinery with a view to harnessing a systematic way the results of research in science and technology for the purpose of economic development.

At present, there is a fair amount of applied scientific and technological work being conducted in the country, but these efforts are for the most part diffused. What is required is the building up of a focal point for enabling the Government to be kept in touch with scientific and technological efforts both at home and abroad, in so far as these are relevant to the development of our economy. To this end, it is proposed to establish a National Scientific Advisory Council to advise the Prime Minister and the National Planning Commission on all scientific and technological developments of interest to the country; to attempt to advise on priorities and to develop co-ordination in scientific and technical research; to recommend on priorities for the training of various categories of scientists and technologists; and to draw attention to scientific and technological developments of interest to the country.

It is hoped that these measures, modest in comparison to those taken in other countries, will help to alleviate some of the pressing developmental problems in our country.

Summary of Problems of Industry in Trinidad and Tobago

This chapter summarizes the problems faced by industry in Trinidad and Tobago and tries to emphasize the role a small open economy must play in a large regional grouping.

Size of Market

The population of Trinidad and Tobago is just under 1,000,000. This in itself is too small a market to accommodate the minimum scale of many industries. Commercial policies had always favoured unrestricted importation of goods from any foreign source. Even at present the level of tariff is extremely low if comparison were made with many of our Latin American neighbours. The highest level of tariffs is 35 per cent.

This freedom from severe import restrictions has encouraged product differentiation to the point where any substandard domestic product is faced with severe market difficulties. The local market is, therefore, made much smaller by the competition from foreign supplies. Only in recent times efforts have been made to impose quantitative restrictions in order to strengthen the infant industries.

It cannot be too strongly stressed that the only way to cultivate a vigorous manufacturing sector which is the only hope of economic salvation of a small economy like ours is to have access to large external markets on reasonably competitive terms.

Disintegrating Preferential System

Trinidad and Tobago as part of the British Commonwealth enjoyed preferences for her manufactured products. The industry which profits most from this advantage is sugar. The bulk of our exports of petroleum products derive no benefits under the preferential system. The exports of other manufactured goods are marginal and the existence of the preferential advantage only academic.

The whole system of discriminatory preferences is under heavy attack by the United States of America and those developing countries which do not benefit from the system. Indications have already been given by the United Kingdom that she is prepared to extend all preferences to all developing countries provided the other developed countries do the same. This of course is not altogether a bad thing, but it will restrict the potential market available to light industries which Trinidad and Tobago with its paucity of raw materials must cultivate.

/The worst

The worst result of sudden disintegration of the preferential system will be the displacement of a large section of the labour force especially in the sugar industry. This will lead to severe structural unemployment which the economy will be unable to cope with for a long time to come.

Restrictive practices of Industrialized Countries

The industrial development of small countries like Trinidad and Tobago is retarded by the restrictive practices against the exports.

In recent times Caribbean countries have witnessed pressure by leading developed countries to curtail exports of the areas of industries which are ideal for our factor endowment. Claiming market distribution, our countries are virtually coerced into signing "voluntary restriction" of exports of these products. The damage which pressures of this nature do to our industrialization progress is incalculable.

Shortage of Expertise and Finance

Closely associated with the lack of market outlets is the shortage of expertise and finance for industrial expansion. If confidence existed in the availability and permanence of a large market, latent talent in the managerial and technical fields will come forth. There is a basic fear to modernize and expand industrial capital in small industries owing to uncertain and difficult market conditions. Industrial finance is also very scarce owing mainly to inheritance of the British banking system which is not geared to term financing of industry except on a very limited and selective scale. The overdraft system which is commonly used is supplied more for working capital than for investment in fixed capital formation. The absence of a vigorous capital market means that a common institution for the mobilization of domestic savings is absent for the financing of industrial expansion.

Competitive Incentive Legislation

Some of the most dynamic industries in our country are fostered under the Aid to Pioneer Industry Ordinance. This Ordinance in recognition of the competition among developing countries gives substantial concession to new industries. These concessions hit the revenue raising capacity of the Government hard. Developing countries in effect compete away their resources and deprive themselves of valuable sources of finance which could be used for more rapid industrial expansion.

/It is

It is very difficult to estimate the weight these concessions have in attracting particular industries. Industrial planners are however often faced with the argument by prospective investors that the more attractive incentives of other countries will be taken heed of in the final decision to locate the industry on our soil. A regional approach to incentive legislation is therefore a field worthy of thorough examination.

Inadequate Research and Technology to Cope with Factor Endowment

Trinidad and Tobago is a labour surplus economy. A major objective of industrial growth should therefore be to absorb the surplus labour in permanent and productive employment. There is, however, a gaping lack of knowledge of adaptability of technology to cope with factor endowment. Modern technology is biased in favour of the labour scarce, capital rich societies. This technology is imported into the alien economies of the developing countries. As in our most dynamic industries, the capital labour ratio is extremely high and this results in a situation where large capital investments absorb a little labour. There is, therefore, a crying need to attract industries which are labour intensive and at the same time to conduct research into the possibilities of adapting known technologies which are biased in favour of capital intensity to take account of the factor endowment of our country.

/Reference Works

Reference Works

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- (3) Research Papers
Growth and Structural Change in the Economy of Trinidad
and Tobago 1951-1961 - Frank Rampersad - Printed by the
Central Statistical Office, 2 Edward Street, Port-of-Spain,
Trinidad and Tobago
- (4) Industry 1957 - Central Statistical Office
- (5) Pioneer Manufacturers
A Survey of the Finance of 52 Pioneer Manufacturers,
1958-1959 - Central Statistical Office 1960

CHAPTER 10

The first part of the chapter discusses the importance of maintaining accurate records of all transactions. This is essential for the proper management of the business and for the preparation of financial statements. The second part of the chapter deals with the various methods of recording transactions, including the double-entry system and the use of journals and ledgers. The third part of the chapter covers the process of adjusting the accounts at the end of each accounting period to ensure that the financial statements are accurate and complete. The final part of the chapter discusses the preparation of the financial statements, including the balance sheet, income statement, and statement of cash flows.

Appendix I

POPULATION

(In thousands of persons)

Midyear	Population estimate
1951	648.7
1952	669.8
1953	678.3
1954	697.5
1955	720.8
1956	742.5
1957	764.9
1958	788.6
1959	817.0
1960	841.2
1961	866.7
1962	893.2
1963	922.0
1964	950.0

Source: Central Statistical Office, Annual Statistical Digest, various issues; and unpublished data.

/Appendix II

Appendix II

National Accounts

(In millions of Trinidad and Tobago dollars at current prices)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	Prel.	Prel.
1. Consumption expenditure (a+b)	240.2	275.3	293.2	325.1	389.5	422.0	468.7	521.4	578.0	642.9	697.7	744.9	787.2	848.9
a. Public (i+ii)	35.2	44.7	49.9	56.4	60.6	67.7	66.1	77.7	81.6	87.8	109.5	122.7	135.2	155.0
i. Recurrent expenditures of the Government	(46.7)	(54.0)	((59.9)	(66.6)	(69.1)	(74.9)	(80.8)	(94.9)	(104.3)	(117.3)	(140.7)	(149.6)	(166.5)	(191.7)
ii. Other and adjustments for national accounts purpose	(-11.5)	(-9.3)	(-10.0)	(-10.2)	(-8.5)	(-7.2)	(-14.7)	(-17.2)	(-22.7)	(-29.5)	(-31.2)	(-26.9)	(-31.3)	(-36.7)
b. Private	205.0	230.6	243.3	268.7	328.9	354.3	402.6	443.7	496.4	555.1	588.2	622.2	652.0	693.9
2. Gross domestic investment (a+b+c)	85.8	94.5	85.9	91.7	115.5	125.5	172.5	206.2	249.3	289.9	256.3	298.2	285.5	292.6
a. Fixed capital formation in the public sector (i+ii)	9.1	10.9	13.6	14.6	18.9	18.8	21.6	33.2	41.8	47.1	47.6	64.3	64.5	71.6
i. Government capital expenditures	(3.2)	(9.5)	(11.9)	(16.2)	(19.5)	(21.0)	(21.3)	(32.5)	(38.0)	(38.6)	(68.2)	(62.9)	((62.8)	(63.6)
ii. Other and adjustments for national accounts purpose	(-4.1)	(1.4)	(1.7)	(-1.6)	(-0.6)	(-2.4)	(0.3)	(0.7)	(3.8)	(8.5)	(-20.6)	(1.4)	(1.7)	(8.0)
b. Fixed capital formation in the private sector (i+ii+iii+iv)	60.7	63.9	65.2	69.8	89.9	102.0	139.7	162.4	200.8	221.2	211.2	231.1	226.7	214.7
i. Petroleum industry	(30.6)	(30.1)	(32.2)	(35.2)	(40.6)	(48.9)	(66.7)	(71.7)	(102.6)	(101.7)	(85.8)	(107.3)	(108.0)	(107.9)
ii. Sugar and rum industries	(1.5)	(1.6)	(1.7)	(1.6)	(5.3)	(5.1)	(6.4)	(7.3)	(6.8)	(4.1)	(4.6)	(4.5)	(4.0)	(3.7)
iii. Housing	(8.0)	(9.2)	(11.7)	(12.4)	(13.7)	(16.1)	(16.2)	(16.6)	(19.4)	(22.7)	(26.0)	(29.5)	(36.4)	(36.1)
iv. Other activities	(20.6)	(23.0)	(19.6)	(20.6)	(30.3)	(31.9)	(50.4)	(66.8)	(72.0)	(92.7)	(94.8)	(89.8)	(78.3)	(67.0)
c. Changes in stocks	16.0	19.7	7.1	7.3	6.7	4.7	11.2	10.6	6.7	17.6	-2.5	2.8	-5.7	6.3
3. Exports of goods and services	176.3	186.4	220.8	227.4	245.1	294.1	357.0	365.9	375.4	393.2	431.2	427.2	454.1	442.2
4. Imports of goods and services	170.6	191.9	191.9	208.2	244.5	251.7	303.0	330.0	356.5	403.7	382.4	408.6	419.8	439.5
5. Gross domestic product at market prices (1+2+3-4)	331.7	364.3	408.0	436.0	505.6	589.9	695.2	763.5	846.2	918.3	1 002.8	1 061.7	1 107.0	1 144.2
6. Net factor income payments abroad	27.4	21.8	33.1	27.9	34.8	68.7	108.6	89.2	117.6	89.0	114.3	113.6	110.1	115.1
7. Gross national product at market prices (5-6)	304.3	342.5	374.9	408.1	470.8	521.2	586.6	674.3	728.6	829.3	888.5	948.1	996.9	1 029.1
8. Subsidies	10.0	10.2	9.4	8.9	5.3	5.5	5.3	6.0	6.6	6.9	9.7	10.2	12.1	14.6
9. Indirect taxes	29.6	31.1	31.1	34.4	34.8	39.1	41.4	50.1	53.7	59.3	57.7	66.2	79.4	83.5
10. Gross national product at factor cost (7+8-9)	284.7	321.6	353.2	382.6	441.3	487.6	550.5	630.2	681.5	776.9	840.5	892.1	929.6	960.2
11. Provision for the consumption of fixed capital	24.1	29.3	38.5	37.3	43.8	53.8	48.6	63.3	72.4	93.1	98.5	112.7	123.4	135.5
12. National income (10-11)	260.6	292.3	314.7	345.3	397.5	433.8	501.9	566.9	609.1	683.8	742.0	779.4	806.2	824.7

Sources: Central Statistical Office, The National Income of Trinidad and Tobago, various issues; and unpublished data.

Appendix III

INDUSTRIAL ORIGIN OF GROSS DOMESTIC PRODUCT

(In millions of Trinidad and Tobago dollars at current prices)

	1958	1959	1960	1961	1962	Prel. 1963	Est. 1964
Agriculture, forestry, fishing and quarrying	98.5	99.0	108.4	112.5	108.3	111.8	111.7
Petroleum	233.3	261.4	263.4	286.3	291.5	286.6	295.4
Manufacturing	91.3	103.1	108.2	119.5	132.1	137.4	143.4
Government	63.4	70.8	82.5	93.1	100.5	112.4	123.3
Wholesale and retail distribution	97.2	109.3	117.2	126.1	134.7	137.6	140.0
Construction	32.3	36.3	40.6	49.7	55.3	59.6	61.2
Public utilities	19.6	21.3	28.4	36.6	41.5	43.0	45.3
Transportation and communication	22.1	23.9	32.4	36.0	39.0	42.6	43.1
Other activities	61.7	74.0	84.8	95.0	102.8	108.7	111.9
GDP at factor cost	719.4	799.1	865.9	954.8	1 005.7	1 039.7	1 075.3
Plus indirect taxes	50.1	53.7	59.3	57.7	66.2	79.4	83.5
Less subsidies	6.0	6.6	6.9	9.7	10.2	12.1	14.6
GDP at market prices	763.5	846.2	918.3	1 002.8	1 061.7	1 107.0	1 144.2

Appendix IV

INDUSTRIAL ORIGIN OF GROSS DOMESTIC PRODUCT

(In millions of Trinidad and Tobago dollars at constant 1960 prices)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Agriculture, forestry, fishing and quarrying	72.8	71.5	77.7	82.6	93.9	94.4	98.9	103.0	100.1	108.4	112.9
Petroleum	121.7	128.1	132.5	135.9	155.7	177.1	201.9	227.7	252.6	263.4	297.6
Manufacturing	53.2	55.3	58.1	63.8	68.7	72.0	82.2	93.0	100.2	108.2	117.5
Government	45.1	51.5	53.7	57.3	57.3	58.4	57.4	63.6	68.2	82.5	81.3
Wholesale and retail distribution	47.7	60.7	59.7	63.1	79.8	80.2	98.4	108.9	113.7	117.2	118.6
Construction	30.9	11.8	10.2	12.6	16.7	19.7	22.9	34.6	38.0	40.6	45.2
Public utilities	15.0	17.0	17.9	18.9	20.6	21.8	23.7	25.1	26.9	28.4	31.2
Transportation and communication	16.3	18.1	19.3	21.3	23.8	24.9	25.8	26.9	28.6	32.4	33.8
Other activities	37.7	39.7	42.2	44.2	52.0	52.5	55.9	61.0	76.7	84.8	92.2
Total	420.4	453.7	471.3	499.7	568.5	601.0	667.1	743.8	805.0	865.9	930.3
Discrepancy ^{a/}	14.1	-6.0	-17.8	-29.7	-33.9	16.1	21.0	-21.7	-27.6	-	6.9
GDP at factor cost	434.5	447.7	453.5	470.0	534.6	617.1	688.1	722.1	777.4	865.9	937.2
Plus indirect taxes	33.0	34.7	36.0	39.7	42.2	44.2	47.8	54.9	53.1	59.3	59.1
Less subsidies	14.4	13.9	12.1	10.5	7.0	6.5	6.1	6.5	7.1	6.9	8.6
GDP at market prices	453.1	468.5	477.4	499.2	569.8	654.8	729.8	770.5	823.4	918.3	987.7

Source: F.B. Rampersad, "Growth and Structural Change in the Economy of Trinidad and Tobago" in
Research Papers of Central Statistical Office, No. 1, December 1963.

a/ Discrepancy derived by comparison with deflated totals in the expenditure side.

Appendix V

PRODUCTION OF CRUDE PETROLEUM AND PETROLEUM PRODUCTS

Period	Petroleum products								
	Crude petroleum a/	Aviation spirit 100 octane	Aviation spirit other grade	Motor spirit	White spirit and vaporizing oil	Burning oil	Gas and diesel oil a/	Lubricating oil and grease a/	Fuel oil
Production in thousands of barrels									
1952	21 474.1	447.7	1 284.9	5 662.0	3 740.6	865.8	5 272.1	2.4	15 584.1
1953	22 336.1	407.7	1 298.6	6 838.2	6 250.9	782.1	5 347.9	1.2	16 443.1
1954	23 629.5	366.7	1 375.1	7 140.1	2 996.5	636.0	5 705.7	2.4	16 071.3
1955	24 896.2	382.2	1 558.8	7 701.2	2 187.5	860.3	7 470.1	2.4	17 468.1
1956	25 185.4	481.7	1 788.7	8 113.5	2 133.1	785.1	9 009.1	2.4	19 728.3
1957	34 063.0	381.1	2 582.2	8 734.1	2 358.3	1 008.7	8 244.0	3.4	21 592.0
1958	37 355.1	481.7	2 894.7	10 527.9	2 043.3	1 089.3	12 476.7	2.0	25 391.3
1959	40 918.8	450.3	3 442.6	11 032.6	1 700.7	1 143.6	12 950.2	2.0	35 231.5
1960	42 357.3	691.1	3 459.7	10 322.8	1 076.6	1 398.9	13 315.6	2.0	44 487.1
1961	45 862.5	743.9	3 082.4	12 596.7	1 204.4	2 715.3	16 471.8	0.9	56 346.4
1962	48 876.2	686.7	11 737.0	12 893.9	308.7	1 784.1	17 502.4	1.6	60 457.4
1963									
1964									
1965									

a/ In addition to production the following quantities were imported in each of the years 1952-1962 (000 bbls).

	1952	1953	1954	1955	1956	1957	1958	1959
Crude petroleum	16 755.0	16 264.8	16 439.3	17 419.1	19 587.5	18 289.4	25 528.9	31 641.5
Gas and diesel oil	94.2	-	257.0	858.5	579.6	617.4	1 697.8	1 610.9
Lubricating oil and grease	32.3	20.7	35.4	35.4	32.4	22.8	33.8	41.9
Other products	-	-	-	-	177.3	173.6	206.3	149.0

Appendix VI

EXPORTS OF CRUDE PETROLEUM AND PETROLEUM PRODUCTS

Period	Petroleum products								
	Crude petroleum	Aviation spirit 100 octane	Aviation spirit other grade	Motor spirit	White spirit and vaporising oil	Burning oil	Gas and diesel oil	Lubricating oil and grease	Fuel oil
Exports in thousands of barrels									
1952	1 845.4	452.3	1 294.0	5 159.1	3 795.2	752.9	5 179.4	3.6	15 821.0
1953	1 621.5	382.2	1 281.3	6 121.3	3 243.0	602.8	5 131.2	2.4	16 166.2
1954	3 550.5	345.8	1 367.7	6 390.2	3 015.4	485.1	5 450.2	1.2	15 247.7
1955	2 825.8	439.5	1 549.5	6 719.0	2 169.3	681.8	7 908.8	3.0	16 274.7
1956	3 945.5	490.5	1 749.0	7 760.4	2 429.3	589.3	9 583.4	4.8	19 910.2
1957	3 272.8	380.9	2 560.6	7 619.4	2 119.3	791.3	10 901.1	7.7	21 328.1
1958	2 100.1	391.6	2 722.5	10 229.9	2 114.3	780.3	13 517.2	4.6	20 780.3
1959	3 299.4	674.5	3 445.7	11 010.1	1 773.5	825.0	13 285.2	4.1	34 889.4
1960	5 072.9	768.9	3 282.9	9 693.9	1 208.8	979.1	13 234.3	5.9	41 323.9
1961	5 492.0	1 091.4	10 468.8	10 618.6	1 405.2	1 347.5	15 936.7	1.4	55 883.7
1962	6 838.5	869.4	11 230.1	9 122.3	631.4	1 373.4	17 064.7	1.7	59 229.7
1963									
1964									
1965									

Source: National Income of Trinidad and Tobago 1952 to 1962, Central Statistical Office.

Appendix VII

PRODUCTION OF PRINCIPAL INDUSTRIAL PRODUCTS (EXCLUDING PETROLEUM)

Item	Unit of quantity	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Sugar <u>a/</u>	000 Long tons	137	153	173	193	161	168	188	181	218	246	201
Rum	000 Proof gals	1 165	1 392	1 834	1 166	1 365	1 365	1 901	2 236	2 993	2 643	1 856
Molasses	000 Gals	6 902	7 368	7 755	8 483	7 413	7 085	10 689	10 916	14 286	17 013	13 012
Beer and stout	000 Liq. gals	876	749	704	706	716	821	1 196	1 612	2 233	1 944	1 851
Cement	000 Tons	-	-	-	121	137	131	147	177	174	97	163
Edible oil <u>b/</u>	000 Gals	1 649	1 630	1 671	1 954	1 916	2 002	1 949	1 834	1 813	1 869	1 951
Laundry soap	000 Lbs	11 095	10 399	10 714	9 246	9 254	8 716	8 617	8 047	9 585	8 658	8 159
Matches	000 Gross											
	small boxes	296	351	276	276	286	246	376	360	348	348	350
Raw oil	000 Gals	2 740	2 459	2 451	2 604	2 578	2 801	2 672	2 347	1 901	2 137	2 361
Margarine <u>a/</u>	000 Lb	299	1 195	1 945	2 474	2 605	2 625	3 012	3 093	3 250	3 280	3 232
Butter substitute	000 Lb	395	375	354	284	254	327	287	269	282	261	313
Lard substitute <u>b/</u>	000 Lb	1 511	1 559	1 521	1 518	1 519	1 600	1 647	1 576	1 723	1 693	1 864
Toilet soap	000 Lb	-	-	26	8	26	36	40	52	280	786	996
Cigarettes	000 Lb	1 394	1 425	1 503	1 627	1 734	1 728	1 799	1 861	1 854	1 856	1 886
Other manufactured tobacco	000 Lb	44	37	35	37	36	32	25	22	24	26	30

Source: Central Statistical Office.

a/ Includes refined sugar.

b/ The data for the years 1954-1960 are revised.

c/ The figure for 1954 is amended.

Appendix VIII

IMPORT CONTENT OF DEMAND COMPONENTS 1951-1959

(Millions of dollars)

Year	Supplies at current prices			Supplies at constant 1951 prices			Capital formation current prices a/		Consumption current prices		Exports current prices	
	Total	Imports of goods and services	Import content percentage	Total	Imports of goods and services	Import content percentage	Total	Import content percentage	Total	Import content percentage	Total	Import content percentage
1951	567.5	238.9	42.1	567.5	238.9	42.1	85.8	53.1	240.2	44.6	241.5	35.7
1952	625.2	266.3	42.1	593.4	253.1	42.7	94.5	46.2	273.0	45.3	257.7	38.6
1953	662.4	260.4	39.3	610.2	261.2	42.8	85.9	34.8	290.4	44.9	286.1	35.3
1954	707.3	276.7	30.1	638.8	283.2	44.3	91.7	57.4	322.9	41.2	292.7	31.2
1955	821.0	321.6	39.2	721.9	316.3	43.8	115.5	62.9	386.6	39.4	318.9	31.2
1956	914.0	332.2	36.3	808.6	318.8	39.4	125.5	54.3	417.9	38.5	370.6	27.5
1957	1 081.8	395.3	36.5	900.1	366.7	40.7	172.5	56.1	464.3	38.1	445.0	27.3
1958	1 206.9	454.1	37.6	1 012.5	436.2	43.1	196.0	55.4	531.0	36.0	479.9	31.8
1959	1 324.2	500.2	37.8	1 096.4	489.4	44.6	236.7	52.8	580.3	36.4	507.1	32.2