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JORDAN'S ECONOMY
ITS PAST PERFORMANCE AND FUTURE GROWTH

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PREFACE

The purpose of the present study is two fold:

- a) to investigate the trend movements in Jordan's economy over the recent past years, and
- b) to plan the path of growth that Jordan should pursue throughout the next decade, 1960 - 1969.

The thesis can be divided into two main parts. The first part, comprising chapters I, II and III, is primarily statistical. The procedure adopted is to divide the economy into agricultural and major non-agricultural sectors, and then utilize available data in an attempt to gauge sectoral growth.

In this connection, it is significant to note that Jordan is still in the initial stage of the development of its statistics. Therefore, the collection, compilation and processing of data is bound - in many instances - to be arbitrary and not highly reliable.

The second part, consisting of chapters IV and V, is an attempt to plan Jordan's development over the next decade. Planning is undertaken in two steps:

- a) The economy is divided into three productive sectors - namely, agriculture, industry and services. With the aid of approximate data, the capital investment required to develop each sector as well as arising income are roughly computed. Thus, by using the 'sectoral projection' approach, it is possible to determine the over-all target of income growth.

b) The economy is, then, examined from a macro-economic standpoint. The future growth of such aggregates as consumption, exports and imports are studied in relation with the contemplated expansion of national income and investment. Underlying the whole analysis is the assumption that capital formation is the strategic factor in the development process.

The author wishes to express his gratitude to his advisor, Dr. Mohammed Diab, without whose guidance, encouragement and patience this work would not have been available in the present form. However, the short-comings of this thesis remain the sole responsibility of the author.

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ABSTRACT

Jordan is a primarily agricultural country, having most of its inhabitants dependent upon land for their livelihood. Throughout the last decade, Jordan's population increased progressively at an average annual rate of 3 percent. By the end of 1959, its population totalled 1,658,313, more than one third of which were Palestinian refugees. Its labor force in the same year was estimated to be 415 thousand, out of which approximately 36 percent were considered unemployed.

The exceptionally high rate of growth of Jordan's population has not been matched by a similar expansion in domestic production. National income, over the recent past years, fluctuated between J.D. 40 and 50 million, depending upon changes in agricultural output. Had it not been for the considerable flow of foreign financial aid, the country's standard of living would have been tragically depressed. Consumption in 1959 amounted J.D. 67.4 million and capital imports reached in the same year J.D. 32.9 million.

Broadly speaking, Jordan suffers from three serious economic problems which are characteristic of an overpopulated and underdeveloped country: An extremely low level of income per head, a very high reservoir of idle human resources and a huge deficit in its balance of payments.

The principal objective of development policy in Jordan should be to increase national income at an accelerated pace, assuming that such income growth will lead to greater employment and a substantial improvement in the balance of payments situation.

Specifically, it is stipulated that national income should rise from J.D 42 million in 1959 to J.D 83.4 million in 1969, growing at an annual rate of 7.1 percent. This target can be achieved by means of a capital investment amounting J.D 123.1 million.

It is, further, set as a target that consumption should expand at a pace equivalent to population growth - i.e., 3 percent annually. This implies that there will be no improvement in the standard of living throughout the ten-year planning period, 1960-1969.

To achieve the production and consumption targets set forth above, it has been found out that foreign capital in the order of J.D2294 million should flow into Jordan's economy over the next ten years.

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CHAPTER I

BACKGROUND

A. Natural Resources

1. Land

The Hashemite Kingdom of Jordan, in its present geographical boundaries, came formally into existence in April 1950. It incorporates the former state of Transjordan which became independent in 1946 and the part of Eastern Palestine, approximately 550 thousand hectares in area, that was annexed to it in the aftermath of the 1948 Palestine war.

The area of Jordan is 97 thousand square kilometers, almost half the size of the Syrian Region of the United Arab Republic. About eighty-five percent of its total area is desert, extending over East Jordan and receiving an annual rainfall less than 200 mm. According to the 1953 Census of Agriculture, the cultivated area, mostly rainfed, is 819 thousand hectares or around nine percent of total area of the country.⁽¹⁾ The land under irrigation is relatively very small, not exceeding five percent of the total cultivated area, and it is situated in the Jordan Valley and around few natural springs further inland.

Jordan's agriculture is based on a dry farming system, except for the small irrigated portion where fruits and vegetables are grown by intensive methods. Under the prevailing crop rotation, the amount of land that is actually cropped each year ranges between

(1) Department of Statistics, Jordan, Statistical Yearbook 1958 (Greek Convent Press, Jerusalem), p.91.

one half to two thirds of the cultivated area and the remainder is left fallow (Appendix 1 Table A).

2. Minerals

Phosphate and potash are the most important known minerals in Jordan. Phosphate deposits occur in four areas, namely Russeifa, El-Hassa, Ma'an and Ras-el-Nageb. The deposits at Russeifa are of a high quality and estimated to be 15 million tons of 74 percent tri-calcium phosphate; the reserves at El-Hassa are estimated to be 7 million tons of friable phosphate and 4 million tons of rock phosphate of a lower grade.⁽¹⁾ The exploitation of the deposits at Russeifa was carried out, on a very limited scale, by a private partnership founded in 1935. Late in 1952, the company was reorganized as a joint enterprise between the Government and private individuals with a capital of one million dinars, and it began operations in 1953.

As regards potash, it is abundantly found with other salts in the waters of the Dead Sea; but it has not yet been recovered for commercial uses.

No metallic minerals or oil deposits worthy of economic exploitation have been discovered. On the whole, Jordan suffers from the paucity of its mineral resources as well as the scarcity of its water supplies.

B. Population and Labor Force

By end of 1947, the population of East Jordan (formerly Transjordan) was approximately 375 thousands and the resident population of West Jordan

(1) Sami Dajani, Economic Planning Division, Jordan Phosphates (Amman, December 1954), p.2.

(Western Palestine) was roughly 460 thousands, both banks adding up to a total of 835 thousand persons. In 1952, a housing census was conducted which revealed that Jordan's inhabitants had increased to 1,329 thousand.⁽¹⁾ The reason for such unusual leap in population growth is the influx of about 400 thousand Palestinian refugees on the eve of the 1948 Arab-Israeli War. Since then, the population has been growing progressively at an estimated annual average rate of 3 percent (Appendix I Table B). By December 1959, the country's inhabitants had approximated 1,658 thousand, including more than half a million refugees.⁽²⁾

This exceptionally high natural rate of population increase, bordering on the 'maximum biological limit', has not been matched by a similar expansion of cropped area. Consequently, human pressure on cultivated land has intensified. The man-land ratio in 1952 was estimated to be 1.27 persons per planted hectare, which makes Jordan one of the most densely settled of the agrarian societies.⁽³⁾

As for the working population, estimates indicate that the labor force increased from 370 thousand persons in 1955 to 415 thousands in 1959 (Table 1). On this basis, the average rate of growth of the labor force is 3 percent annually, which is equivalent to the rate of population

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- (1) Department of Statistics, Jordan, Annual Statistical Yearbook 1953 (Greek Convent Press, Jerusalem), p.1.
 - (2) According to UNRWA statistics June 1959, the number of refugees registered in Jordan as of June 1959 was 595725. See: UNRWA, Statistical Summary (Beirut, June 1959), p.1.
 - (3) UNRWA, Inventory of Major Economic Development Programmes and Projects in the Middle East, Bulletin No.11 (Beirut, 1954) p.97.

Table II
Labor Force in Jordan
(Thousand Persons)

	Population	Population between 15-65	Labor Force ⁽¹⁾	
			in percentage	in number
<u>1955</u> ^(a)				
Male	740	370	95	352
Female	735	370	5	18
Total	<u>1475</u>	<u>740</u>	<u>100</u>	<u>370</u>
<u>1959</u> ^(b)				
Male	830	415	95	395
Female	825	415	5	20
Total	<u>1655</u>	<u>830</u>	<u>100</u>	<u>415</u>

Source: (a) IBRD Mission, the Economic Development of Jordan (Baltimore, the John Hopkins Press, 1955), p.441.

(b) L.J. Zimmerman, Economic Development in Jordan: Framework and Targets, 1960-1969, memorandum submitted to Jordan Development Board in December 1959.

- (1) In estimating Jordan's Labor Force, the following assumptions were made:
- (a) Half the population was between 15 and 65 years of age.
 - (b) Only 5 percent of women between 15 and 65 were capable and willing to engage in paid non-agricultural employment.
 - (c) Women in agriculture were excluded.
 - (d) 5 percent of males between the ages 15 and 64 were excluded to allow for students and valids.

growth. Such equality in growth rates follows directly from the procedure adopted in labor force estimates.⁽¹⁾

Of a total labor force of 415 thousand persons available for employment in 1959, 140 thousands were occupied in agriculture, 125 thousands took up non-agricultural employment and 150 thousands were unemployed.⁽²⁾ Of those in non-agricultural employment, 65 thousands were engaged in public sector activities and 60 thousands in urban private enterprises.

On the basis of the above estimates, 36 percent of total labor force were unemployed in 1959 and 64 percent were considered employed. However, persons employed constituted only about 16 percent of total population in that year.

C. National Income

No reliable estimates of Jordan's national income exist for recent years; and the only study yet available on this subject is the one which was prepared by the A.U.B. Economic Research Institute for the period 1952-1954.⁽³⁾

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- (1) The assumptions postulated in the labor force estimates are stated in Table I.
 - (2) L.J. Zimmerman, Economic Development of Jordan: Framework and Targets, 1960-1969, memorandum submitted to Jordan Development Board on December 1959, p.2.
 - (3) More refined analysis will have to await the results of the enquiries on national income recently undertaken by Jordan Department of Statistics in collaboration with Ford Foundation experts.

The findings of this study, as noted in Table 2, demonstrate that national income ranged annually between 40 and 50 million Jordanian Dinars in the period 1952-1954, depending upon changes in agricultural production. The annual average per capita income for the referred years would then range between J.D. 29 and J.D. 36.⁽¹⁾ Had it not been for the large foreign subsidies and loans received from Britain, the United States, and other sources, the level of income would have been further depressed.

Agriculture is the most important sector in the Jordanian economy, having contributed about 40 percent of national income in 1954.⁽²⁾ Moreover, around three-fourths of the non-refugee population are directly dependent upon this sector for their livelihood.

The public sector and trade come next in order of magnitude, having amounted respectively to 18 and 16 percent of national income in 1954. As regards industry, it has played a minor role in the economy and its share in 1954 was not more than 7 percent of national income.⁽³⁾ However, its significance is steadily rising.

-
- (1) The per capita income of unskilled workers is still lower. According to the Ministry of Economy, the annual wage of a full time laborer in 1953 was approximately J.D. 70 (\$200). Assuming that the average family consists of 5 persons, then the average per capita income for the laboring class would be J.D.14. If prolonged periods of unemployment were considered, the yearly income per head would even be less than J.D.14.
 - (2) The above estimate is based on the Economic Research Institute study.
 - (3) The term industry includes, among other things, construction and mining and quarrying.

Table 2
National Income of Jordan
1952-1954

(in J.D. Millions)

S e c t o r	1952	1953	1954
Agriculture	17.6	11.6	19.7
Mining and Quarrying	0.1	0.1	0.2
Industry	1.8	2.1	2.7
Construction	0.6	0.4	0.6
Real Estate	4.8	4.8	4.9
Public Utilities	0.2	0.1	0.1
Transportation and Communication	2.7	2.9	3.2
Government	7.6	7.9	8.8
Services	1.4	1.5	1.6
Trade	7.4	7.1	7.9
Finance	0.3	0.3	0.3
Total	44.5	38.8	50.0

Source: A.U.B. Economic Research Institute, National Income of Jordan 1952-1954, (typescript).

Appendix I Table A

Area Planted With Cereals, Vegetables & Fruits in Jordan

1952-1959

(in thousand dunums)

Product	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
<u>Grand Total</u>	<u>Inc</u>	<u>Inc</u>	<u>Inc</u>	<u>Inc</u>	<u>6251.0</u>	<u>6190.9</u>	<u>5992.9</u>	<u>5402.8</u>
<u>Cereals -</u>								
<u>Sub-Total</u>	<u>4666.9</u>	<u>4391.3</u>	<u>4799.8</u>	<u>4500.0</u>	<u>5071.6</u>	<u>4568.2</u>	<u>4801.0</u>	<u>4084.2</u>
Wheat	2694.8	2460.7	2732.4	2696.6	3000.0	2803.5	2999.7	2598.8
Barley	943.5	919.7	1044.9	1012.0	1045.0	946.4	1025.9	804.7
Lentils	180.1	181.8	199.8	217.8	200.0	236.9	248.6	194.7
Kersenneh	185.4	200.9	220.0	248.8	220.0	251.7	248.5	180.0
Beans Dry								
Broad	27.7	26.0	35.7	34.9	36.0	37.5	34.8	28.0
Chick Peas	73.2	82.3	84.0	33.5	85.0	61.6	35.0	61.9
Maize	372.6	353.3	320.0	138.9	322.7	110.9	101.6	122.2
Sesame	178.4	142.8	143.9	106.7	144.0	99.7	80.4	80.1
Other Grains	11.2	23.8	19.1	10.8	18.9	20.0	26.5	13.8
<u>Vegetables -</u>								
<u>Sub-Total</u>	<u>304.7</u>	<u>339.0</u>	<u>374.9</u>	<u>277.8</u>	<u>377.8</u>	<u>431.6</u>	<u>375.2</u>	<u>472.1</u>
Tomatoes	82.7	82.1	97.0	94.3	100.0	112.0	102.4	152.5
Eggplants	15.0	14.9	15.7	16.2			19.8	29.0
Onions and Garlic	22.9	25.3	25.0	21.7			26.0	32.1
Cauliflower & Cabbage	10.9	11.6	11.6	9.6	277.8	319.6	14.6	17.9
Cucumber and Water Melon	133.6	162.2	168.5	95.1			155.3	172.4

Product	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
Potatoes	7.3	10.8	13.5	11.1	(	(	18.3	17.9
Other Vegetables	32.3	32.1	43.6	29.8	(	(	38.8	50.3
<u>Fruits</u>								
<u>Sub-Total</u>	<u>Inc</u>	<u>Inc</u>	<u>Inc</u>	<u>Inc</u>	<u>755.5</u>	<u>759.3</u>	<u>794.6</u>	<u>818.6</u>
Olives	n.a.	n.a.	n.a.	n.a.	450.0	466.9	480.7	486.7
Apples & Pears	9.5	10.1	10.7	10.2	11.6	9.9	10.8	12.4
Plums and Peaches								
Almonds and Apricots	31.0	26.6	26.6	21.0	27.0	22.9	25.3	28.3
Figs	30.1	76.9	77.4	80.1	90.0	73.8	77.9	80.6
Bananas	6.1	7.4	3.6	8.2	8.6	9.8	10.2	10.4
Citrus Fruits	0.7	1.9	0.9	1.2	2.2	2.3	4.0	6.4
Pomegranates	5.0	5.5	5.5	3.2	5.8	6.7	6.5	6.9
Grapes	153.4	155.3	157.3	152.3	157.3	163.8	175.2	182.8
Other Fruits	4.2	4.2	3.7	4.1	3.0	3.2	4.0	4.1
<u>Miscellaneous</u>								
<u>Sub-Total</u>	<u>29.1</u>	<u>29.1</u>	<u>n.a.</u>	<u>27.8</u>	<u>46.1</u>	<u>431.8</u>	<u>22.1</u>	<u>27.9</u>
Tobacco	29.1	29.1	n.a.	27.8	46.1	35.8	22.1	27.9
Other Plants	-	-	-	-	-	396.0	-	-

Source: (a) Department of Statistics, Jordan, Annual Statistical Yearbooks 1952-1955 (Greek Convent Press, Jerusalem)

(b) Ministry of Agriculture, Agricultural Production of Jordan 1956-1959, pamphlet issued by the Ministry for internal use.

Appendix I Table B
Population Growth in Jordan⁽¹⁾
1952-1959

End of Year	Population	Births		Deaths		Net Natural Increase per 1000
		Number	Rate per 1000	Number	Rate per 1000	
1952	1329174 ⁽²⁾	46146	34.7	14948	11.2	23.5
1953	1360000	49228	36.2	14543	10.7	25.5
1954	1402627	53170	37.9	14402	10.3	27.6
1955	1447450	58037	40.1	13214	9.1	31.0
1956	1490509	55374	37.1	12315	8.3	28.8
1957	1538028	60582	39.4	13063	8.5	30.9
1958	1606746	69594	43.3	11640	7.3	36.0
1959	1658313	63643	38.4	12076	7.3	31.1
Average						29.3

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks 1952-1959.

- (1) Includes all Jordanian nationals, i.e. original inhabitants of East and West Jordan plus refugees residing in the country.
- (2) The basis of the above population estimates is the Housing Census of 1952.

CHAPTER II

AGRICULTURE

A. Production

Agricultural output fluctuates widely from year to year, alternating with rainfall and other seasonal factors. Through out the period 1952-1959, output varied from 352 to 918 thousand tons. This is seen in Table 3. In 1952, rainfall was relatively high and the total yield of cereals, vegetables and fruits amounted ^{to} 659 thousand tons. The succeeding year witnessed lower rainfall and as a result the level of production fell. However, the production cycle continued moving erratically upward and downward with the rainfall cycle. (See Chart 1). The average output for the last eight years was approximately 633 thousand tons. Jordan suffered a sever drought in the previous two years and consequently agricultural produce was below the average.

The main field products in the country are wheat and barley which are cultivated as rainfed winter crops. Owing to unstable rain conditions and poor methods of cultivation, the production of what and barley fluctuates sharply. For instance, the yield of what ^e per dunum varies between 29 and 85 kg., and the yield of barley per dunum changes between 16 and 100 kg. (Appendix II Table B.)

There are also sharp changes in the productivity ^{per dunum} of fruits. The yield per dunum of olives varies between 32 and 140 kg., of figs between 183 and 300 kg. and of pomegranates between 316 and 1000 kg.

Table 3

Volume of Agricultural Output, Rainfall and Indices

1952 - 1959

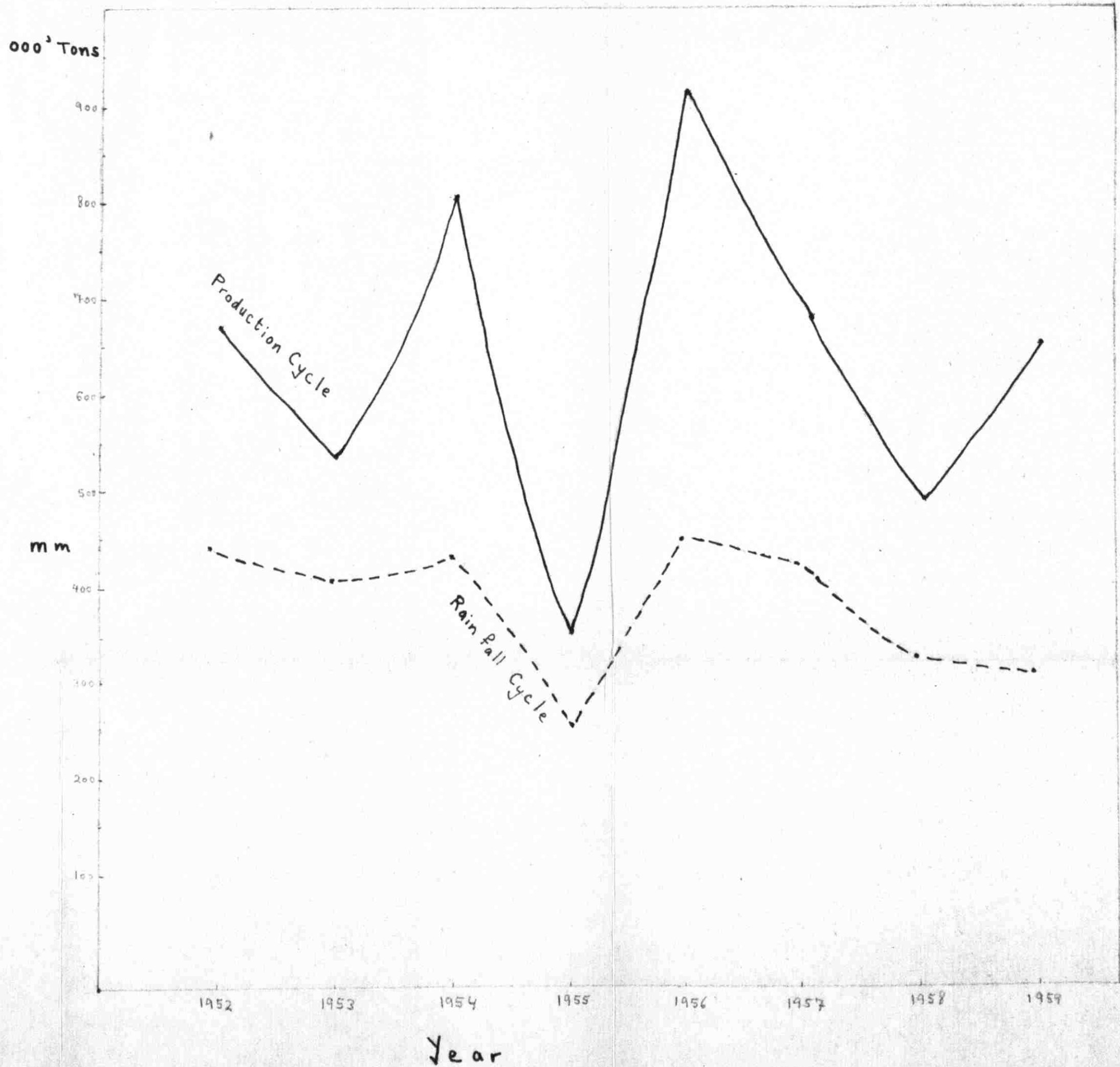
	Unit	1952	1953	1954	1955	1956	1957	1958	1959
<u>Output</u> (a)									
Cereals	1000 tons	377.1	188.9	409.4	130.0	415.5	341.5	102.2	154.1
Vegetables	"	126.4	172.8	241.7	148.3	331.8	240.1	237.1	350.9
Fruits	"	155.9	177.3	152.3	73.7	170.6	97.8	136.9	119.5
Total	"	659.4	539.0	803.4	352.0	917.9	679.5	486.2	624.5
Index		100	81.7	121.8	55.4	139.2	103.0	73.7	94.7
<u>Rain fall</u> (b)									
Amount	mm	444.7	404.9	439.3	252.8	448.1	427.3	321.6	300.3
Index		100	91.0	98.8	56.8	100.7	96.1	72.3	67.5

Source: (a) Compiled from Appendix II Table A;

(b) Department of Statistics of Jordan, Annual Statistical Yearbooks 1958 and 1959, p.1.

Chart 1

Rainfall Cycle And Agricultural Production Cycle



In contrast, vegetables - notably tomatoes - seem to be following a spectacular upward trend. To illustrate, the productivity of a dunum of tomatoes expanded from 336 kgs. in 1952 to 540 kgs. in 1956 and to 817 kgs. in 1959. This expansion is partly due to the increased area devoted to vegetables but mainly due to a relatively greater increase in irrigated as compared with the non-irrigated lands, subsequently improving average yields. (1)

Other products of the agricultural sector, namely forest and livestock, have correspondingly been subject to climatic changes. As seen in Table 4, the value of forest products had reached a peak of J.D. 323.5 thousand in 1956; it declined during 1957, then advanced in 1958 and continued rising in 1959. On the other hand, the value of livestock products reached the peak in 1957, amounting to J.D. 8.3 million. It dropped sharply to J.D. 6 million in 1958, but went up again in 1959.

All in all, the gross value of agricultural production ranged between 14.8 and 28.0 million Jordan Dinars during the period 1952 - 1959. (2) Cereals, vegetables and fruits contributed, on the average, about two thirds of total value, while animal and forest products constituted one third of the output of this sector in terms of value.

(1) UNRWA, Reconnaissance Survey of the Marketing of Fruits and Vegetables in the Arab Middle East, Bulletin No.12 (Beirut, February 1956), pp.13-15.

(2) According to the IBRD Mission to Jordan, the gross value of agricultural production was J.D. 18.3 million in 1952, J.D. 14.8 million in 1953 and J.D. 20.7 million in 1954. See: IBRD Mission, The Economic Development of Jordan (Baltimore; the John Hopkins Press, 1957), p.438.

Table 4

Value of Agricultural Production

1956 - 1959

(in Jordan Dinars)

Products	1956	1957	1958	1959
<u>Grand Total</u>	<u>28028409</u>	<u>26534711</u>	<u>21442245</u>	<u>24237095</u>
Cereals	9479174	8879504	3644500	5707008
Vegetables	5786430	5107794	6184773	6815495
Fruits	5827890	3973630	5306124	4416943
Forest	319515	224383	251571	310821
Livestock	6615400	8340400	6055277	6986928

Source: Compiled from Appendix II Table C.

B. Trade

1. Exports

The amount of agricultural commodities that Jordan exports every year varies in direct proportion with domestic production. It rises substantially in good seasons and falls sharply in years of poor harvests.

During the period 1952-1959, agricultural exports ranged between 1.19 to 3.37 million Jordan Dinars (Table 5). A noticeable expansion occurred throughout 1952-1956, which had been interrupted in 1955. The level of agricultural exports reached the peak in 1956; but since then, it has been declining steadily.

A study of the composition of Jordan exports during the period under review reveals that agricultural commodities comprise, on the average, 77 percent of total domestic exports in terms of value.

The most important agricultural exports are vegetable products, particularly tomatoes, cucumbers and melons. More than one third of domestic exports in 1959 were vegetables and roughly one half of these exports were tomatoes.

Fruits come next to vegetables in order of magnitude. The value of exported fruits reached a peak of J.D. 1.2 million in 1956, but declined in succeeding years.

Cereals, on the other hand, are a major export item only in years of abundant produce; but in drought seasons the country imports wheat and flour heavily.

Table 5

Agricultural Exports of Jordan

1952 - 1959

(Value in J.D.s)

Type of Product	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>1189729</u>	<u>1730955</u>	<u>2135653</u>	<u>1754196</u>	<u>3375450</u>	<u>3184295</u>	<u>1998108</u>	<u>1893915</u>
Vegetables	340859	503387	676865	783841	1238186	1573681	1249804	1167406
Fruits	306455	787299	682710	598647	1200654	713633	328764	310849
Cereals & Flour	355747	274612	630914	177557	703941	678644	216388	193642
Livestock and other Products	186668	165657	145164	194151	232669	218337	203152	222018

Source: Compiled from Appendix II Table D.

2. Imports

A large expansion has occurred in Jordan imports of food and agricultural products, as illustrated in Table 6. The value of agricultural imports had gone up from J.D. 7.46 million in 1952 to J.D.13.47 million in 1959, having increased approximately by 80 percent.

However, despite such a rising trend in the absolute value of agricultural imports, its relative share in total imports has been steadily declining; and non-agricultural imports have been correspondingly gaining in importance. For example, agricultural imports constituted in 1952 around 43 percent of total imports (J.D. 17.33 million); whereas, in 1959 this proportion dropped to 33 percent of all imports (J.D. 40.33 million).

A study of import composition indicates that (about 86 percent of the imported agricultural commodities are consumers' goods and 14 percent are raw materials and sem-finished products which are used in industry and therefore are considered producers' goods.⁽¹⁾ The principal agricultural consumer imports are cereals and milling industry products, sugar, live animals, coffee and tea, edible fruits and nuts and dairy products. It is worth noting that the last two years, 1958 and 1959, were marked by heaving imports of wheat flour and cereals as a result of the drought situation.

The major agricultural raw materials are leather and skin, raw wool and cotton, tobacco and inedible fats and oils. These raw materials make up around 5 percent of total imports, in value, and 14 percent of agricultural imports.⁽²⁾

(1) A. Theodorides, United States Operations Mission to Jordan, Jordan's Foreign Trade 1950-1959 (Amman, March 1960), p.9.

(2) Ibid.

Table 6

Agricultural Imports of Jordan

1952 - 1959

(Value in J.D.)

Type of Products	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>7457692</u>	<u>8129982</u>	<u>7909370</u>	<u>10148487</u>	<u>9274106</u>	<u>11065938</u>	<u>12955877</u>	<u>13474400</u>
Cereals and Flour	3306744	3358073	2018240	3909648	2505077	2771442	5039717	5359700
Fruits and Vegetables	719633	772902	1023031	1225684	1436046	1825143	1464383	1744200
Livestock	681085	1014243	1367473	1076625	1421957	1403224	1624075	1735100
Other Products	2750230	2984764	3500626	3936530	3911026	5066129	4827702	4635400

Source: Compiled from Appendix II Table F.

3. Balance of Trade

There exists a big trade gap between imports and exports of agricultural commodities. The value of agricultural imports is, on the average, five times as much as exports. What is more, the imbalance in Jordan trade has been growing at a rapid pace. In 1952, the import surplus amounted to 6 million dinars; but by 1959, it had gone up to 11.6 million dinars. This is equivalent to a relative increase of 85 percent as seen in table 7 below.

Table 7
Jordan Balance of Trade
1952 - 1959
(Value in Thousand J.D.s)

Year	Agricultural Exports		Agricultural Imports		Balance of Trade	
	Amount	Index	Amount	Index	Amount	Index
1952	1189.7	100	7457.7	100	-6268.0	100
1953	1730.9	145	8130.0	109	-6399.1	102
1954	2135.6	179	7909.4	106	-5773.8	92
1955	1754.2	147	10148.5	136	-8394.3	134
1956	3375.4	284	9274.1	124	-5898.7	94
1957	3184.3	268	11065.9	148	-7881.6	126
1958	1998.1	168	12955.9	174	-10957.8	175
1959	1893.9	159	13474.4	181	-11580.5	185

Source: Compiled from Tables 5 and 6.

C. Consumption

The supply of agricultural consumers' and producers' goods, available in a given period of time, is a function of domestic production and imports less exports.

Agricultural output in Jordan, as already expounded, fluctuates constantly, depending on changes in climatic conditions; and the level of agricultural exports rises and falls with domestic output. On the other hand, imports of agricultural commodities are apt to vary inversely with output, increasing considerably in poor years and relatively declining in good seasons. Hence, imports reduce to a certain degree the year to year wide fluctuations in agricultural supply and, therefore, tend to stabilize the country's level of consumption.

Table 8 shows that the supply of cereals, vegetables and fruits has ranged between 421 and 896 thousand tons over the period 1952-1959. The average annual supply for the same period is estimated to be 683 thousand tons. If this average is assumed to be the normal supply for the country, it will then become evident that production in years 1953, 1955, 1957 and 1958 is below normal.

In order to gauge the volume of cereals, vegetables and fruits which was available for consumption, it was found necessary to exclude a certain percentage from the supply of these agricultural products to allow for raw materials and other producers' goods. For purpose of analysis, producers' goods were assumed to be 15 percent of all agricultural supply. (1)

(1) This assumption is, perhaps, not too unrealistic since recent analysis revealed that approximately 86 percent of agricultural imports are consumers' goods and 14 percent are producers' goods. See above section on imports.

Table B

Available Supply of Cereals, Vegetables and Fruits

1952 - 1959

(Thousand metric tons)

YEAR	CEREALS			VEGETABLES			FRUITS			TOTAL		
	Production	Imports Minus Exports	Available Supply	Production	Imports Minus Exports	Available Supply	Production	Imports Minus Exports	Available Supply	Production	Imports Minus Exports	Available Supply
1952	377.1	60.0	437.1	126.4	-18.1	108.1	155.9	9.4	165.4	659.4	51.3	710.7
1953	188.9	69.1	258.0	172.8	-25.9	146.9	177.3	4.6	181.9	539.0	47.8	586.8
1954	409.4	14.2	423.6	241.7	-39.9	201.8	152.3	6.4	158.7	803.4	-19.3	784.1
1955	130.0	102.2	232.2	148.3	-40.4	107.9	73.7	7.5	81.2	352.0	69.3	421.3
1956	415.5	23.7	439.2	331.8	-52.0	279.8	170.6	6.3	176.9	917.9	-22.0	895.9
1957	341.5	30.4	371.9	240.1	-56.8	183.3	97.8	17.1	114.9	679.4	-9.3	670.1
1958	102.2	165.1	267.3	237.1	-45.9	191.2	136.9	10.1	147.0	476.2	129.3	605.5
1959	154.1	197.6	351.7	350.9	-42.8	308.1	119.5	10.1	129.6	624.5	164.9	789.4

Source: Based on Appendix II Tables A, E, G.

On this basis, Table 9 has been compiled, revealing the erratic changes in the supply of cereals, vegetables and fruits available for consumption.

In contrast, population has followed a regular expansionary path at an average annual rate of 3 percent. As a consequence, a downward trend has developed in per capita consumption of these agricultural products, which has become very sharp in years 1957 and 1958. Per capita consumption in 1957, for instance, was only 81 percent of the level attained in 1952; but in 1958 consumption per head dropped further to 70 percent of the base year. However, year 1959 witnessed a slight improvement in the level of per capita consumption, due largely to additional imports.

Table 9
Per Capita Consumption of Cereals, Vegetables & Fruits
1952 - 1959
(In Kilograms)

Year	Population	Domestic ⁽¹⁾ Consumption in thousand Kgs.	Per Capita Consumption in Kgs.	Index
1952	1329174	604095	454	100
1953	1360000	498780	367	81
1954	1402627	666485	475	105
1955	1447450	358105	247	54
1956	1490509	761515	511	113
1957	1538028	569585	370	81
1958	1606746	514675	329	70
1959	1658313	670990	405	89

Source: Compiled from Appendix 1, Table B and Table 7.

- (1) The volume of consumption is equal to available supply of these agricultural products minus producer's goods, which are assumed to be 15 percent of agricultural supplies, consumption includes stocks.

Appendix II Table A

Production of Cereals, Vegetables & Fruits in Jordan

1952 - 1959
(In Thousand Metric Tons)

Commodity	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
<u>Grand Total</u>	<u>659.4</u>	<u>539.0</u>	<u>803.4</u>	<u>352.0</u>	<u>917.9</u>	<u>679.4</u>	<u>476.5</u>	<u>624.5</u>
<u>Cereals - Sub-Total</u>	<u>377.1</u>	<u>188.9</u>	<u>409.4</u>	<u>130.0</u>	<u>415.5</u>	<u>341.5</u>	<u>102.2</u>	<u>154.1</u>
Wheat	225.2	99.7	233.3	79.4	240.0	219.8	65.6	103.5
Barley	92.5	42.9	104.2	25.4	104.5	75.8	16.8	26.1
Lentils	11.3	10.0	17.3	4.7	17.2	11.9	4.5	4.2
Kersenneh	11.9	9.9	21.2	6.5	21.1	12.8	4.3	4.8
Beans, dry broad	2.3	1.6	4.0	1.8	3.6	2.8	1.1	1.7
Chick Peas	3.7	3.2	4.4	1.4	4.2	3.7	1.7	3.2
Maize	24.6	16.6	18.2	6.9	18.5	9.5	5.5	7.1
Sesame	4.4	3.6	4.3	3.5	3.9	3.6	2.3	2.6
Other grains	1.2	1.4	2.5	0.4	2.5	1.6	0.4	0.9
<u>Vegetables - Sub-Total</u>	<u>126.4</u>	<u>172.8</u>	<u>241.7</u>	<u>148.3</u>	<u>331.8</u>	<u>240.1</u>	<u>237.1</u>	<u>350.9</u>
Tomatoes	27.8	40.4	52.1	48.0	54.0	65.4	74.4	126.1
Eggplants	7.4	9.6	12.9	11.3		13.1	22.1	34.3
Onions and Garlic	10.3	10.5	9.8	8.4		12.9	14.0	17.5
Cauliflowers & Cabbages	9.2	14.2	14.2	11.6		13.5	17.6	19.1
Cucumbers & Melons	58.2	77.1	125.8	48.2		109.4	77.3	105.0

Commodity	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
Potatoes	4.7	9.0	9.3	7.8	277.8	11.7	13.7	15.8
Other Vegetables	8.8	2.0	17.6	13.0		14.1	18.0	33.1
<u>Fruits - Sub-Total</u>	<u>155.9</u>	<u>177.3</u>	<u>152.3</u>	<u>73.7</u>	<u>170.6</u>	<u>97.8</u>	<u>136.9</u>	<u>119.5</u>
Olives	62.4	49.2	61.4	12.0	63.0	14.9	52.4	11.2
Apples & Pears	2.6	4.2	2.8	1.4	3.1	1.9	1.9	2.4
Plums, Peaches								
Almonds and Apricots	10.0	5.8	7.3	2.4	6.7	3.9	4.4	6.4
Figs	17.8	61.2	18.0	7.6	27.0	14.3	14.3	20.6
Bananas	6.5	7.4	4.1	13.6	8.6	7.7	13.1	13.7
Citrus Fruits	0.7	1.9	0.7	1.0	1.8	1.9	3.1	5.8
Pomegranates	4.2	4.7	5.0	2.0	5.8	3.3	2.8	2.2
Grapes	48.8	41.0	52.0	31.6	51.9	47.0	⁴² 24 .6	54.1
Other Fruits	1.9	1.3	1.0	1.3	1.1	1.3	1.4	1.8
Tobacco	1.0	0.6		0.8	1.6	1.6	0.9	1.3

Sources: (a) Department of Statistics of Jordan, Annual Statistical Yearbooks 1952-1955. (Greek Convent Press, Jerusalem).

(b) Ministry of Agriculture, Agricultural Production 1956-1959, pamphlet issued for internal use.

(1) The estimate of the Département of Statistics, 177.7 thousand tons, is much less than the above figure quoted from the publications of the Ministry of Agriculture.

Appendix II Table B

Average Yield Per Dunum of Cropped Land for Selected Products

1952 - 1959
(Kilograms)

Product	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
<u>Cereals</u>								
Wheat	84	40	85	29	80	78	22	40
Barley	98	47	100	25	100	80	16	32
Lentils	62	55	87	22	86	52	18	21
Kersenneh	64	49	96	26	96	50	17	26
Beans, Dry								
Broad	84	60	112	51	100	75	32	60
Chick Peas	51	39	53	43	50	60	50	59
Maize	66	47	57	50	56	85	52	57
Sesame	24	25	30	33	27	30	29	32
<u>Vegetables</u>								
Tomatoes	336	492	537	509	540	584	700	817
Eggplants	492	648	825	696	(	(	1100	1187
Onions and Garlic	450	414	391	387	1000	540	500	545
Cauliflower and Cabbages	847	1225	1224	1207	(	(	1200	1067
Cucumber and Water Melon	435	475	476	507	(	(	500	600
Potatoes	647	836	690	706	(	(	750	882

Product	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (b)	1957 (b)	1958 (b)	1959 (b)
Fruits								
Olives	n.a.	n.a.	n.a.	n.a.	140	32	109	23
Apples & Pears	n.a.	n.a.	n.a.	n.a.	270	196	172	200
Almonds and Apricots	n.a.	n.a.	na.	n.a.	250	171	172	225
Figs	n.a.	n.a.	n.a.	n.a.	300	200	183	225
Bananas	n.a.	n.a.	n.a.	n.a.	1000	785	1290	1310
Citrus Fruits	n.a.	n.a.	n.a.	n.a.	800	825	768	900
Pomegranates	n.a.	n.a.	n.a.	n.a.	1000	486	428	316
Grapes	n.a.	n.a.	n.a.	n.a.	330	290	243	295
Tobacco	n.a.	n.a.	n.a.	n.a.	40	52	48	55

Source: (a) Department of Statistics, Jordan, Annual Statistical Yearbooks 1952-1959 (Greek Convent Press, Jerusalem).

(b) Ministry of Agriculture, Agricultural Production 1956-1959, pamphlet issued by the Ministry for internal use.

Appendix II Table C

Value of Agricultural Production

1956 - 1959
(Jordan Dinars)

Product	1956	1957	1958	1959
<u>Grand Total</u>	<u>28028409</u>	<u>26534711</u>	<u>21442245</u>	<u>24237095</u>
<u>Cereals - Sub-Total</u>	<u>9479174</u>	<u>8879504</u>	<u>3644500</u>	<u>5707008</u>
Wheat	6480000	6154680	2296560	3621135
Barley	1567500	1287750	469392	964627
Lentils	344000	452390	246565	293720
Kersenneh	244000	229914	152075	167755
Beans, Dry Broad	80000	98000	44960	70140
Chick Peas	127500	130480	96360	162200
Maize	315 ⁰ 990	227930	142496	20 ⁸ 231
Sesame	291600	272325	185200	195675
Other Grains	29484	26035	10892	23525
<u>Vegetables- Sub-Total</u>	<u>5786430</u>	<u>5107794</u>	<u>6184773</u>	<u>6815495</u>
Tomatoes	1620000	1963230	2605330	3151750
Eggplants			442020	513795
Onions & Garlic			237473	262485
Cauliflower & Cabbages			528120	382820
Cucumbers & Melon			1509270	1362315

Product	1956	1957	1958	1959
Potatoes	4166430	3144564	413160	316280
Other Vegetables			449400	826050
<u>Fruits-</u>				
<u>Sub-Total</u>	<u>5827890</u>	<u>3973630</u>	<u>5306124</u>	<u>4416943</u>
Olives	1890000	742550	2096000	672300
Apples and Pears	187920	116400	111720	122400
Plums, Peaches, Almonds and Apricots	202500	117900	174920	159650
Figs	540000	286300	357200	220455
Bananas	387450	383600	458815	547760
Citrus Fruits	70400	75600	125640	231160
Pomegranates	87750	81475	83850	32910
Grapes	1038500	939200	1065900	1352950
Other fruits	31950	36325	35825	42325
Tobacco	291420	285900	172000	289330
Hay & other Plants	1100000	908380	624254	745703
<u>Livestock-</u>				
<u>Sub-Total</u>	<u>6615400</u>	<u>8349400</u>	<u>6055277</u>	<u>6986828</u>
Live animals	2750000	2988500	3335400	2998400
Milk	1230000	1880000	427500	930250
Fish	9200	25000	7500	7800
Eggs	300000	560000	14400	360000

Product	1956	1957	1958	1959
Wool & Hair	227200	351200	60000	107320
Leather	207500	259700	257600	233129
Manure	1500000	2000000	1600000	2000000
Other Products	391500	285000	352877	349929
<u>Forest Products -</u>				
<u>Sub-Total</u>	<u>319515</u>	<u>224383</u>	<u>251571</u>	<u>310821</u>
Wood	25400	9280	1665	45219
Charcoal	144415	148400	191491	222394
Others	149700	66703	58415	43208

Source: Ministry of Agriculture, "Agricultural Production 1956-1959", pamphlet issued by the ministry for internal use.

Appendix II Table D

Agricultural Exports of Jordan

1952 - 1959
(Value in Jordanian Dinars)

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>1189729</u>	<u>1730955</u>	<u>2135653</u>	<u>1754196</u>	<u>3375450</u>	<u>3184295</u>	<u>1998108</u>	<u>1893915</u>
<u>Vegetables -</u>								
<u>Sub-Total</u>	<u>340859</u>	<u>503387</u>	<u>676865</u>	<u>783841</u>	<u>1238186</u>	<u>1573681</u>	<u>1249804</u>	<u>1167406</u>
Tomatoes	85570	203513	270893	389631	450648	604430	561372	579643
Eggplants	-	-	39572	57841	111841	111614	163339	81468
Onion and Garlic	524	1681	30215	16595	11588	49777	24972	4952
Cauliflower & Cabbage	11850	15386	23993	22343	28332	58775	84788	93186
Cucumbers, marrows, Water:								
Melon & Melon:	146933	160821	187346	211740	406512	501372	286929	270221
Broad Beans fresh	26324	19593	29283	31653	74189	97462	60111	49574
Potatoes	16143	49512	44692	28594	63332	90250	26701	27821
Others	53515	52881	50881	25444	91744	60001	41592	60541
<u>Fruits -</u>								
<u>Sub-Total</u>	<u>306455</u>	<u>787299</u>	<u>782710</u>	<u>598647</u>	<u>1200654</u>	<u>713633</u>	<u>328764</u>	<u>310849</u>
Olives	3316	8263	11449	9712	54394	21459	34652	49751
Olive Oil	189658	627325	547261	347362	823390	492588	556188	32389
Apricots and Peaches	-	-	20482	8584	22939	22756	25426	9648
Apples and Pears	-	-	11196	7576	5843	9927	7054	7652

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
Almonds	9351	18412	12853	38673	34028	40638	21518	20832
Figs	1245	799	5345	11430	10353	11540	7996	11710
Bananas	63212	93455	59537	153205	213828	74321	132913	79416
Citrus Fruits	994	4755	5415	8202	12574	11656	18972	33028
Grapes	486	953	1170	1163	3563	3755	8503	25570
Tobacco	6720	13649	-	-	-	-	4221	2736
Others	31473	19688	8002	12740	19742	24993	11321	38117
<u>Cereals -</u>								
<u>Sub-Total</u>	<u>355747</u>	<u>274612</u>	<u>630914</u>	<u>177557</u>	<u>703941</u>	<u>678644</u>	<u>216388</u>	<u>193642</u>
Wheat & Flour	65664	3605	70956	-	161515	164575	133520	189818
Barley & Flour	139983	470	145202	51734	84583	39500	7408	-
Maize and Com	5487	2228	32974	10127	25134	27174	7845	-
Lentils	51818	90169	121098	39397	238811	271298	26717	-
Broad beans, dry	11117	4159	8357	2250	26518	5915	4266	-
Chick-peas	16182	28291	48536	7741	9284	26155	5205	-
Sesame	35207	121709	141654	42401	104427	73630	22932	-
Others	30289	23981	62137	23907	53669	70397	8495	3824
<u>Livestock & Other Products</u>								
<u>Sub-Total</u>	<u>186668</u>	<u>165657</u>	<u>145164</u>	<u>194151</u>	<u>232669</u>	<u>218337</u>	<u>203152</u>	<u>222018</u>
Slaughtered animals bladders & offals	-	-	2744	2821	5206	7457	7725	4613
Hides, skin & leather	70775	65670	42635	79235	102986	87817	103036	125799
Raw wool and Cotton	67067	48343	45497	70828	75428	70199	20187	34639
White cheese	7218	12203	14155	9610	11993	16334	13009	15197

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
Children's eggs	-	-	4257	2925	6307	2805	3948	6576
Oils and fats	3347	8326	3647	-	120	2651	26386	11271
Soap	13702	7814	4821	2577	6619	7378	6698	4841
Articles of wood	4988	7129	14228	15510	11730	18300	8631	9037
Unspecified commodities	19571	16172	13180	10645	12280	5396	13532	10045

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks 1952-1959

Appendix II Table E

Exports of Vegetables, Fruits and Cereals

1952 - 1959
(Quantity in metric tons)

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>43023</u>	<u>51797</u>	<u>97935</u>	<u>75644</u>	<u>113424</u>	<u>111913</u>	<u>79125</u>	<u>72865</u>
<u>Vegetables</u>	<u>24142</u>	<u>34314</u>	<u>50989</u>	<u>54411</u>	<u>67027</u>	<u>77817</u>	<u>63300</u>	<u>59662</u>
Tomato	2693	8142	11200	22134	17437	24478	23280	22613
Eggplant	-	-	3135	5659	6342	5569	8902	5649
Onion & Garlic	30	101	1641	1876	583	2756	1544	312
Cauliflower & Cabbages	724	1376	2279	2492	2131	3457	4934	4886
Cucumbers, marrows, watermelon and mellons	14206	16150	23904	17534	30152	31020	18968	21085
Broad beans, fresh	1427	837	1554	2001	3001	3851	2909	1659
Potatoes	621	2237	3130	1437	3178	4762	1384	1384
Others	4441	5471	4146	1278	4203	1924	1379	2074
<u>Fruits</u>								
<u>Sub-Total</u>	<u>6468</u>	<u>9743</u>	<u>9171</u>	<u>11461</u>	<u>16388</u>	<u>9497</u>	<u>9082</u>	<u>7689</u>
Olives	61	248	436	206	1503	437	959	893
Olive Oil	1249	4114	4384	2690	4255	2999	326	179
Appricots and Peaches	-	-	644	425	689	713	847	370
Apples & Pears	-	-	3494	256	121	210	130	161
Almonds	54	71	68	153	117	136	312	92
Figs	34	32	367	720	559	604	434	569

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
Bananas	2001	2993	2034	5778	7076	2401	4384	2617
Citrus Fruits	28	191	246	257	344	276	494	811
Grapes	20	35	51	50	110	138	304	966
Tobacco	67	202	-	-	-	-	-20	203
Others	2954	1857	4047	726	1614	1583	872	1028
<u>Cereals - Sub-Total</u>	<u>12413</u>	<u>7740</u>	<u>37775</u>	<u>9772</u>	<u>30009</u>	<u>24599</u>	<u>6743</u>	<u>5514</u>
Wheat & Flour	1578	105	3320	-	5060	4996	3944	5206
Barley & Flour	6597	20	14157	3548	5211	2419	387	-
Maize & Corn	212	74	2197	552	1198	1141	371	-
Lentils	1328	2441	5599	1974	12311	7693	675	-
Broad beans, dry	374	284	438	129	1088	181	135	-
Chick-Peas	372	884	2208	260	320	661	140	-
Sesame	424	2031	2391	575	1324	941	255	-
Others	1528	1901	7465	2734	3497	6567	836	308

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks
1952-1959

Appendix II Table F (1)

Agricultural Imports of Jordan (1)

1952 - 1959
(Value in Jordanian Dinars)

Commodity	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (a)	1957 (a)	1958 (a)	1959 (b)
<u>Grand Total</u>	<u>7457692</u>	<u>8129982</u>	<u>7909370</u>	<u>10148487</u>	<u>9274106</u>	<u>11065938</u>	<u>12955877</u>	<u>13474400</u>
<u>Cereals -</u>								
<u>Sub-Total</u>	<u>3306744</u>	<u>3358073</u>	<u>2018240</u>	<u>3909648</u>	<u>2505077</u>	<u>2771442</u>	<u>5039717</u>	<u>5359700</u>
Wheat & Flour	2340450	2400118	1297696	2954592	1700351	1770312	3412843	
Barley & Flour	12494	20376	-	139762	-	-	327718	
Maize & Corn	44615	38391	33	28980	-	-	195037	
Lentils	10460	64524	30233	5335	12772	10314	11577	
Beans, dry								
Broad	141129	80303	2530	32901	41565	57265	40156	
Rice	668398	681096	656351	655056	727964	915282	885075	
Sesame	21750	1850	-	22875	-	-	71002	
Others	67448	71415	31397	60147	22425	18269	96309	
<u>Vegetables -</u>								
<u>Sub-Total</u>	<u>173358</u>	<u>194034</u>	<u>230760</u>	<u>265347</u>	<u>374465</u>	<u>439779</u>	<u>396530</u>	<u>546200</u>
Tomato & Sauce	30368	15058	24537	55401	74039	60653	48980	
Onions & Garlic	30321	28468	48212	68041	61087	132659	115478	
Potatoes	90689	120677	83691	98515	164465	224189	168094	
Others	21980	29831	74320	43390	74874	22278	63978	
<u>Fruits -</u>								
<u>Sub-Total</u>	<u>546275</u>	<u>578868</u>	<u>792271</u>	<u>960337</u>	<u>1061581</u>	<u>1385364</u>	<u>1067853</u>	<u>1198000</u>
Apples & Pears	-	-	69110	97645	227088	366685	167600	

(1) Includes food preparations and processed agricultural products.

Commodity	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (a)	1957 (a)	1958 (a)	1959 (b)
Citrus Fruits	36119	42488	105342	115009	154100	228145	286952	
Grapes	315	12667	-	7295	13321	15386	16641	
Bananas	-	-	1769	15324	95807	117015	53062	
Dates	307570	188187	154296	124732	73700	75480	98794	
Other Fruits	63233	132119	108203	140142	150971	272762	119172	
Tobacco	139038	203407	353551	460190	346594	309891	325632	
<u>Livestock -</u>								
<u>Sub-Total</u>	<u>681085</u>	<u>1014243</u>	<u>1367473</u>	<u>1076625</u>	<u>1421957</u>	<u>1403224</u>	<u>1624075</u>	<u>1735100</u>
Live Animals	323404	531421	506054	633187	918633	691343	952666	
Fish	24766	32063	23243	28823	41698	63419	62732	
Milk, Butter & Samneh	261266	385868	611947	244920	291930	333442	320026	
Cheese	10972	14136	140055	72106	23532	51014	61258	
Prepared Sardines%	27764	30036	41489	68470	92464	135644	140044	
Prepared Beef & Mutton	13566	20719	44685	29119	49667	113083	71386	
Others	19347	-	-	-	4033	15279	15963	
<u>Miscellaneous</u>								
<u>Products -</u>								
<u>Sub-Total</u>	<u>2750230</u>	<u>2984764</u>	<u>3500626</u>	<u>3936530</u>	<u>3911026</u>	<u>5066129</u>	<u>4827702</u>	<u>4635400</u>
Oils & Fats	440214	530379	272978	382484	553015	589902	784549	
Coffee	341227	351329	300426	256045	321557	390932	380604	
Tea	160668	262091	375960	556284	327517	565382	408467	
Species	37288	30369	22202	40811	34563	57817	48269	
Sugar	1049396	988890	1244583	1270737	1440526	1985197	1777982	

Commodity	1952 (a)	1953 (a)	1954 (a)	1955 (a)	1956 (a)	1957 (a)	1958 (a)	1959 (b)
Cocoa	16686	7571	9293	31434	14916	13019	26573	
Edible Preparations	109803	92394	85441	133804	151414	212783	145906	
Leather	165493	155865	214470	209676	200842	249289	255714	
Wood & Sawmill Products	307341	406017	489739	651634	625803	694163	694050	
Cotton & Wool Yarn	122114	159859	485534	403621	236619	293287	305589	
Unspecified Commodities	-	-	-	-	4254	14358	-	

- Source: a) Department of Statistics, Jordan, Annual Statistical Yearbooks 1952-1958
- b) A. Theodorides, United States Operations Mission to Jordan, Jordan's Foreign Trade 1950-1959 (Amman, March 1960), pp.9-12.

Appendix II Table G

Imports of Cereals, Vegetables and Fruits

1952 - 1959
(Quantity in metric tons)

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>94415</u>	<u>99587</u>	<u>78656</u>	<u>144910</u>	<u>91313</u>	<u>102607</u>	<u>208510</u>	<u>237836</u>
<u>Cereals -</u>								
<u>Sub-Total</u>	<u>72454</u>	<u>76879</u>	<u>52023</u>	<u>111968</u>	<u>53758</u>	<u>55021</u>	<u>171868</u>	<u>203123</u>
Wheat & Flour	55846	61197	41740	88886	51228	51785	121485	137514
Barley & Flour	371	973	-	6817	-	-	18002	19194
Maize & Corn	1363	1171	-	1604	-	-	11997	15001
Lentils	163	1540	804	221	587	244	246	220
Broad beans, dry	3973	1607	66	801	1028	1673	1006	2680
Sesame	243	25	-	293	-	-	894	1855
Rice	8669	8070	9413	13346	154	641	16730	19244
Others	1826	2296	-	-	761	678	1508	7415
<u>Vegetables -</u>								
<u>Sub-Total</u>	<u>6047</u>	<u>8366</u>	<u>11039</u>	<u>13990</u>	<u>14872</u>	<u>20970</u>	<u>17416</u>	<u>16896</u>
Tomato	301	787	629	2559	2847	1832	1372	306
Onion & Garlic	1557	1574	3267	5647	3461	7018	6034	5221
Potato	3667	5404	5225	4638	7103	11556	8379	10325
Others	532	601	1918	1146	1461	564	1631	1044
<u>Fruits -</u>								
<u>Sub-Total</u>	<u>15914</u>	<u>14342</u>	<u>15594</u>	<u>18952</u>	<u>22683</u>	<u>26616</u>	<u>19226</u>	<u>17817</u>
Apples & Peas			140	126	4188	7119	3222	5559

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
Citrus Fruits	1040	1499	3438	3565	4506	5163	6096	7916
Grapes	6	328	-	326	512	511	546	-
Bananas			49	477	2684	2632	1333	-
Dates	13889	10118	9206	11333	8223	5715	6340	3367
Tobacco	169	226	436	502	401	499	441	428
Others	810	2171	2325	2623	2169	4977	1248	547

Source: Department of Statistics, Jordan, Annual Statistical Yearbooks 1952-1959.

CHAPTER III

MAJOR NON-AGRICULTURAL SECTORS

The preponderant portion of the activities of the other sectors of the Jordanian economy are carried out in conjunction with agriculture. A large number of Jordan's industries are engaged in processing of local agricultural products, much of the country's communication system is occupied in transporting agricultural commodities and the commercial and banking systems cope largely with the transactions of the agricultural sector.

In view of the lack of reliable national income statistical series, it is very difficult to assess with certainty the growth of the economy. However, it is proposed to make use of the few available statistical indicators and to investigate the trend movements in the major non-agricultural sectors.

A. Industry

Jordan's industry is still in its initial stage. It has played a minor role in the national economy, and local demand for industrial goods has largely been satisfied by imports.

According to the census of mining and manufacturing industries conducted for 1954, there were only 425 establishments employing five persons or more and having an invested capital of J.D. 4.7 million. As noted in Table 10, these establishments employed about 8000 persons and paid an annual wage bill of J.D. 700 thousand. The value of industrial gross output for that year amounted J.D. 6.9 million; and the value of net output of enumerated establishments was estimated to be 30 percent of gross output, or

Table 10

Jordan's Mining & Manufacturing Establishments Engaging

Five or more Persons, 1954

(1)	(2)	(3)	(4)		
Industry	Number of Establishments	Capital Invested in J.D.	Persons Engaged		
			Wages and Salaries Paid in J.D.		
			Value of Gross output		
<u>Grand Total</u>	<u>425</u>	<u>470³⁰605</u>	<u>8003</u>	<u>700456</u>	<u>6929177</u>
Mining (Phosphates and Common Salt)	3	429000	699	63008	174000
Food Stuff	61	1014000	912	81633	2796720
Alcoholic Beverage	30	266855	353	25598	232450
Tobacco and Tombac	5	407000	583	63330	615188
Clothing	44	321400	823	71142	366078
Cement	1	1000000	240	46000	750000
Chemicals (Soap, Perfumes, Matches etc.)	27	236000	452	29582	341562
Metal Products Excluding Machinery	31	133150	392	36120	196750
Printing and Book binding	14	200100	351	34509	176448
Wood Furniture Making	25	117600	445	36906	173471
Other Industries	184	605500	2753	212628	1106510

Table 10 (Cont'd)

Source: The Economic Planning Division of Jordan, Census of Mining & Manufacturing Industries in Jordan, 1954 (Amman, July 1955), pp.6 - 12.

- (1) The following industries were excluding from the Census:
 - a) All olive oil presses.
 - b) Gold & Silver Smithing.
 - c) Stone quarries and construction.
 - d) Electricity Generation.
 - e) All establishments engaging less than five adult persons.
 - f) Establishments working entirely for industrial, or family customers such as bakeries and tailoring establishments.
- (2) Represents the total gross value of buildings, machinery, stocks of materials including fuel and stocks of finished and semi-finished goods as at the end of the financial year of the establishment.
- (3) Includes all managerial and technical staff, office staff and other salaried employees and wage earners.
- (4) Represents the selling value at factory or mine, less excise and related duties, of all products manufactured in the Census Year whether sold or in stock.

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about J.D. 2.1 million.⁽¹⁾ On this basis, the capital-output ratio would be 2.2 to 1.

The food industry stood first among manufacturing industries as far as the number of establishments, investment and gross output were concerned. Cement and tobacco came respectively next in order of magnitude. Invested capital in flour mills, cement, tobacco and phosphates made up about 60 percent of total investment in 1954.⁽²⁾

From a geographical standpoint, the 1954 census revealed that 40 percent of industrial establishments and 56 percent of the total persons employed were located in East Jordan; whereas 60 percent of all establishments and 44 percent of those engaged were in West Jordan. Industrial production was particularly concentrated in Amman and Nablus, both densely populated.

In 1957, the Department of Statistics conducted another census of mining and manufacturing establishments employing five persons or more. The findings of the census indicated that the number of establishments had gone up to 1038 and the active labor force had increased to 13453 (Table 11). The wage bill paid in 1957 amounted to J.D. 1.41 million, which is twice as much as the payment effected in 1954.

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- (1) The Economic Planning Division of Jordan, Census of Mining and Manufacturing Industries in Jordan, 1954 (Amman, July 1955), p.5.
- (2) Dr. A. Gritly and M. Abbas, The Economic Planning Division of Jordan, Industrial Development in Jordan (Amman, May 1956), pp.1 & 2.

Table 11

Number of Industrial Establishments Engaging Five Persons or more,
Total Persons Employed and Wages Paid in 1954 and 1957.

Industry	1954 ^(a)			1957 ^(b)		
	Number of Establishments	Persons Engaged	Wages & Salaries Paid in J.D.	Number of Establishments	Persons Engaged	Wages & Salaries Paid in J.D.
<u>Grand Total</u>	<u>425</u>	<u>8003</u>	<u>700456</u>	<u>1038</u>	<u>13453</u>	<u>1409820</u>
Mining (Phosphate & Common salt)	3	699	63008	13	2040	344316
Food Stuff	61	912	81633	131	1173	84456
Alcoholic Beverages	30	353	25598	40	535	54648
Tobacco & Tombac	5	583	63330	4	791	122736
Clothing	44	823	71142	230	1973	143928
Cement	1	240	46000	2	248	55380
Chemicals	27	452	29582	35	503	20496
Metal Products excluding Machinery	31	392	36120	82	910	90480
Printing book binding	14	351	34509	21	370	42564
Wood Furniture making	25	445	36906	57	537	56832
Other Industries	184	2753	212628	423	4373	393984

Table 11 (Cont'd)

Source: a) See Table 10.

b) Department of Statistics, Jordan, Annual Statistical Yearbook 1957 (National Printing Press, Amman), pp.178 - 181.

(1) The Department of Statistics gives the wages and salaries paid on monthly basis; however, they have been converted to a yearly basis through multiplication by 12.

The outstanding small industries in Jordan are canning, confectionary, alcoholic beverages, aerated waters, shoes, shirts, ready made clothes, soap, household utensils, tents, mirrors, pottery, mosaic, tiles and mother of pearl. The setting-up of such industries requires neither huge capital nor high technical skill.

The few big industries in the country are of recent origin. These include phosphates, cement, cigarettes and flour mills. They are well-equipped with modern machinery and enjoy a certain degree of monopolistic power.

A review of production in the big industrial plants reveals a steadily rising trend. The output of natural phosphates, for instance, increased from 208 thousand tons in 1956 to 338 thousand tons in 1959 (Table 12). In the past four years, phosphate production expanded at an average annual rate of 18 percent. On the other hand, cement production had advanced from 79 thousand tons in 1956 to 114 thousand tons in 1958 at an average rate of growth of 21 percent annually. In 1959, production of cement was temporarily retarded due to improvements introduced to enhance future capacity. Output of alcoholic beverages and cigarettes has also gone up substantially in the same period.

As regards the construction activity, its significance in the national economy has been rising and an appreciable amount of capital has been invested in this industry. This is illustrated in the marked expansion of the area devoted to construction each year.

Table 12

Production of Major Industries

1956 - 1959

Industrial Product	Unit	1956	1957	1958	1959
<u>Phosphate</u> Production	1000 tons	208.4	261.9	293.9	337.6
Index		100	126	141	162
<u>Cement</u> Production	1000 tons	79.3	107.2	114.2	110.2
Index		100	135	144	139
<u>Alcoholic Beverages</u> Production	1000 liters	626.2	629.7	1064.7	1267.3
Index		100	101	170	202
<u>Tobac and Cigarettes</u> Production	1000 kgs.	636.8	796.8	772.2	903.6
Index		100	125	121	142
<u>Construction</u> Area	1000 sq. ms.	173.1	216.2	256.6	278.5
Index		100	125	148	161

Source: Department of Statistics of Jordan, Annual Statistical Yearbook 1958 and 1959.

B. Trade

1. Exports

The level of domestic exports has increased by more than two folds during the last decade. It expanded from J.D.1.28 million in 1952 to a peak of J.D.4.38 million in 1956. The succeeding years, however, were marked by a relative decline in exports, resulting from a situation of continuous drought and low agricultural produce. This is illustrated in Table 13.

As stated in the preceding chapter, agricultural products - mainly vegetables and fruits - form the greater portion of domestic exports. But, percentage wise, the share of agricultural commodities in all domestic exports has tended to go down over the years. For instance, in 1952, agricultural exports constituted 93 percent of domestic exports; but in 1956, their share fell to 77 percent; and in 1959, it further dropped to 61 percent.

At the same time, the proportion of non-agricultural products in domestic exports has been steadily rising - e.g., from 7 percent in 1952, to 22 percent in 1956 and to 39 percent in 1959. This can be attributed to the rapid expansion of phosphate production and sales. Phosphates in 1959 constituted approximately 85 percent of non-agricultural exports and one third of Jordan's total domestic exports (Appendix 3 Table A).

While the bulk of the country's agricultural exports have been sold in the neighboring Arab countries, phosphates have found markets in India, Greece and East European countries.)

Table 13
Composition of Jordan's Domestic
Exports.

1952 - 1958
(Value in thousand J.Ds.)

Year	Agricultural Exports:		Non-Agricultural Exports		Total Domestic Exports	
	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent
1952	151189.7	93	90.4	7	1280.1	100
1953	1730.9	91	169.5	9	1900.4	100
1954	2135.7	88	2298.2	12	2433.9	100
1955	1754.2	67	865.2	33	2619.4	100
1956	3375.5	77	1003.8	23	4379.3	100
1957	3184.3	74	1118.0	26	4302.3	100
1958	1998.1	64	1141.2	36	3139.3	100
1959	1893.9	61	1203.6	39	3097.5	100

Source: See Table 5 and Appendix 3 Table A.

2. Imports

Imports of Jordan have more than doubled during the period 1952-1959 increasing from J.D. 17.3 million in 1952 to J.D. 40.3 million in 1959. The growth of imports is illustrated in Table 14.

Agricultural products comprise, on the average, 38 percent of total imports in terms of value; while non-agricultural commodities form 62 percent of imports.⁽¹⁾ However, it is significant to note that the proportion of imports consisting of agricultural products has pursued a downward trend over the eight-year period under review, decreasing by 10 percent; whereas non-agricultural products as a proportion of imports have correspondingly increased by 10 percent over the same period.

Another classification of imports reveals that, on the average, 32.5 percent of total imports are producers' goods and 67.5 percent are consumers' goods.⁽²⁾ But, there has been a pronounced tendency for the relative share of consumers' goods to fall over the past years. On the other hand, producers' goods have tended to grow faster than consumers' goods and subsequently its share in all imports has gone up. To illustrate, in 1952, three-fourths of imports were consumer products and only one-fourth was producer products; but by 1959, consumer products had declined to 62 percent of total imports and producer products

(1) Major non-agricultural commodities listed in Appendix 3 Table B.

(2) A. Theodorides, op.cit., p.8.

had gone up to 38 percent (Table 15). This trend can be attributed to the increasing pace of development expenditure in the country which has led to additional imports of capital goods and raw materials.

Table 14

Composition of Jordans Imports

1952 - 1959
(Value in thousand J.D.s)

Year	Agricultural Imports:		Non-Agricultural Imports		Total Imports	
	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent
1952	7457.7	43	9876.8	57	17334.5	100
1953	8130.0	44	10265.0	56	18395.0	100
1954	7909.4	40	11931.1	60	19840.5	100
1955	10148.5	38	16910.0	62	27058.5	100
1956	9274.1	33	18544.6	67	27818.7	100
1957	11065.9	36	19420.3	64	30486.2	100
1958	12955.9	38	21072.8	62	34028.7	100
1959	13474.4	33	26854.0	67	40328.4	100

Source: See Table 6 and Appendix 3 Table B.

Table 15

Classification of Jordan's Imports Into Producers' and Consumers' Goods in 1952, 1955, 1958 & 1959 (1)

(Value in thousand J.D.s)

Type of Product:	1952		1955		1958		1959	
	Amount	Percent of	Amount	Percent of	Amount	Percent of	Amount	Percent of
<u>Total Imports</u>	<u>117334.5</u>	<u>100.0</u>	<u>27058.5</u>	<u>100.0</u>	<u>34028.7</u>	<u>100.0</u>	<u>40328.4</u>	<u>100.0</u>
<u>Producers' goods</u>	<u>4371.9</u>	<u>25.2</u>	<u>8599.1</u>	<u>31.8</u>	<u>11913.6</u>	<u>35.0</u>	<u>15193.6</u>	<u>37.7</u>
Used in Agriculture	161.4	0.9	367.6	1.4	4461.0	1.4	585.4	1.5
Used in Industry:	4210.5	24.3	8231.5	30.4	11452.6	33.6	14608.4	36.2
Capital Goods	1163.7	6.7	3102.0	11.4	4010.3	11.8	4840.9	12.0
Raw Materials	3046.8	17.6	5129.5	19.0	7442.3	21.8	9767.5	24.2
<u>Consumers' goods</u>	<u>12962.6</u>	<u>74.8</u>	<u>18459.4</u>	<u>68.2</u>	<u>22115.1</u>	<u>65.0</u>	<u>25134.6</u>	<u>62.3</u>
Agricultural	6271.6	36.2	8017.1	29.6	10797.0	31.7	11603.9	28.8
Manufactured Products	6691.0	38.6	10442.3	38.6	11318.1	33.3	13530.7	33.5

Source: A. Theodorides, Jordan's Foreign Trade 1950-1959 (Amman, March 1960), p.8.

- (1) There is a discrepancy between the author's estimates of agricultural and non-agricultural imports and Mr. Theodorides estimates, which can be attributed to the arbitrary basis of classification. The author's estimates of agricultural imports are slightly higher and of non-agricultural imports are slightly below those of Mr. Theodorides.

Within the category of producers' goods, imports of capital goods have been growing at a faster rate than raw materials and semi-finished products.) Between 1952 and 1959, capital goods recorded an increase of 316 percent, while raw materials and semi-finished goods increased by 221 percent.

3. Balance of Trade

In spite of the marked increase in its exports, Jordan has developed an extremely adverse balance of trade over the years. As late as 1952, exports amounted only to 9 percent of imports and the merchandise trade deficit was approximately J.D. 16 million (Table 16). Since then, the deficit has been growing at an average rate of 19 percent; by 1959, it reached about J.D. 37 million, which is equivalent to a relative increase of 134 percent (see Chart 2).

Such a large trade deficit has been financed partly by invisible exports (e.g. tourism) and private remittances, but mainly by foreign official donations.) This is seen in Table 17. In 1959, foreign governments grant-in-aid to Jordan amounted J.D. 25.14 million, of which the United States alone provided more than J.D. 17 million. The United Kingdom contributed in that year J.D. 2.4 million and the United Nations Agency's expenditure totalled roughly J.D. 5.4 million. (1)

(1) A. Theodorides, op.cit., p.4.

(It is important to note that foreign economic assistance to Jordan has more than doubled throughout the last decade, having thus rendered it possible for this country to maintain a widening trade gap.)

Table 16

Jordan's Balance of Trade

1952 - 1959
(In thousand J.D.s)

Y E A R	E X P O R T S ⁽¹⁾		I M P O R T S		B A L A N C E O F T R A D E	
	Amount	Index	Amount	Index	Amount	Index
1952	1532.8	100	17334.5	100	-15801.7	100
1953	2098.3	137	18395.0	106	-16296.7	103
1954	2823.7	184	19840.5	114	-17016.8	108
1955	2868.2	187	27058.5	156	-24190.3	153
1956	4959.8	324	27818.7	160	-22858.9	145
1957	5544.4	362	30486.2	176	-24941.8	158
1958	3532.2	230	34028.7	196	-30496.5	193
1959	3412.3	223	40328.4	233	-36916.1	234

Source: Department of Statistics of Jordan, Annual Statistical Yearbook 1959 (Industrial Islamic Orphanage Printing Press, Jerusalem), p.145.

(1) Includes domestic exports plus re-exports.

Chart 2
Jordan Foreign Trade 1952 - 1959

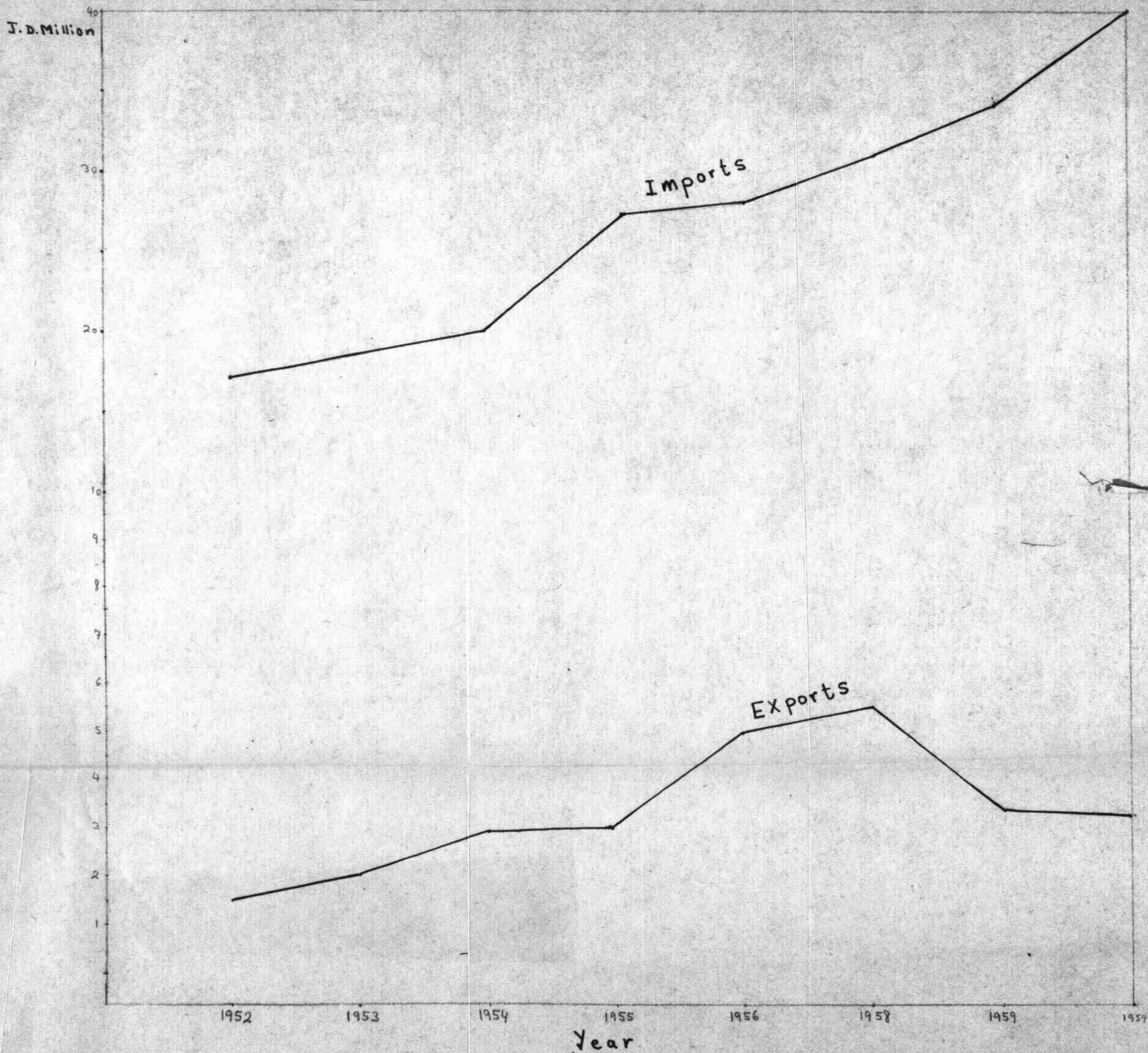


Chart 2
Jordan Foreign Trade 1952 - 1959

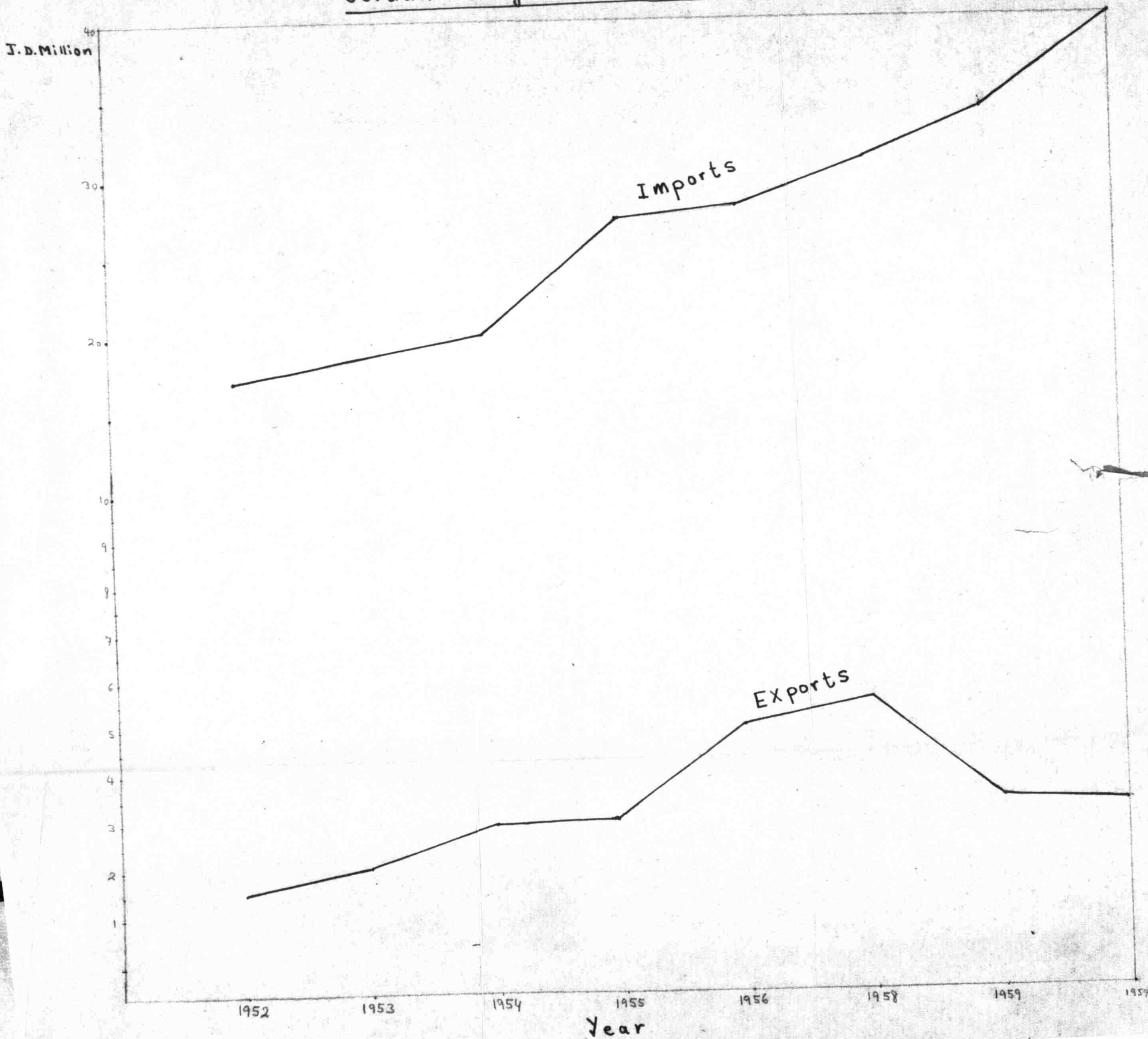


Table 17

Jordan Balance of Payments

1952 - 1959
(Millions of J.D.s)

Particulars	1952	1953	1954	1955	1956	1957	1958	1959
Current Account								
A. Debits - Total	<u>18.50</u>	<u>19.61</u>	<u>20.03</u>	<u>27.06</u>	<u>26.68</u>	<u>32.59</u>	<u>36.78</u>	<u>42.82</u>
1. Goods - Total	17.15	18.21	18.59	25.26	24.61	29.76	33.97	39.39
a) Commercial imports	14.27	14.36	15.38	21.72	21.65	26.76	30.23	34.90
b) U.N.R.W.A. and charitable imports	2.88	3.58	3.02	2.99	2.71	2.75	2.76	3.10
c) U.S.A. aid goods	-	0.27	0.19	0.55	0.25	0.25	0.98	1.39
2. Travel	0.89	0.95	0.92	1.13	0.90	1.68	1.61	1.93
3. Insurance and freight	0.03	0.04	0.04	0.07	0.14	0.19	0.12	0.13
4. Investment Income	0.09	0.12	0.15	0.25	0.48	0.22	0.12	0.18
5. Government expenditure	0.25	0.21	0.21	0.30	0.42	0.57	0.27	0.82
6. Miscellaneous	0.09	0.08	0.12	0.05	0.13	0.17	0.69	0.37
B. Credits - Total	<u>4.97</u>	<u>5.99</u>	<u>6.74</u>	<u>8.03</u>	<u>10.23</u>	<u>13.62</u>	<u>11.92</u>	<u>9.95</u>
7. Goods	2.11	2.66	3.05	3.57	5.16	5.54	3.53	3.41
8. Travel	1.29	1.68	2.21	2.45	1.49	1.22	1.22	2.85
9. Insurance	-	-	-	-	-	-	-	0.11
10. Investment income	0.05	-	0.15	0.31	0.43	0.93	0.73	0.67
11. Government expenditure	0.89	1.06	0.71	0.86	1.17	2.82	2.89	1.56
12. Miscellaneous	0.63	0.59	0.62	0.84	1.98	3.11	3.55	1.35
Balance on A & B	<u>-13.53</u>	<u>-13.62</u>	<u>-13.29</u>	<u>-19.03</u>	<u>-16.45</u>	<u>-18.97</u>	<u>-24.86</u>	<u>-32.87</u>
C. International transfers - Total	<u>11.75</u>	<u>14.60</u>	<u>14.99</u>	<u>18.80</u>	<u>18.42</u>	<u>20.49</u>	<u>27.13</u>	<u>30.92</u>
13. Private remittances (1) (net)	2.30	2.34	2.37	3.37	3.62	4.20	3.22	5.78

Table 17 (Cont'd)

Particulars	1952	1953	1954	1955	1956	1957	1958	1959
14. Official transfers	9.45	12.26	12.62	15.43	14.80	16.29	23.91	25.14
<u>Balance on Current Account</u>	<u>-1.78</u>	<u>+0.98</u>	<u>+1.70</u>	<u>-0.23</u>	<u>+1.97</u>	<u>+1.52</u>	<u>+2.27</u>	<u>-1.95</u>
Capital Account								
15. Private capital	0.12	0.10	-	-	0.25	0.48	0.58	0.11
16. Official loans (2)	1.05	0.72	1.30	1.29	1.86	0.28	1.13	0.50
17. Other Official Capital	0.72	0.20	1.14	1.18	0.08	-0.88	-0.13	-
18. Charge in foreign exchange reserves (3)	-0.58	-1.86	-3.99	-2.35	-4.14	-1.74	-3.85	+0.47
19. Errors and Omissions	+0.47	-0.14	-0.15	+0.11	-0.02	+0.24	-	+0.87
20. <u>Total Capital Account</u>	<u>+1.78</u>	<u>-0.98</u>	<u>-1.70</u>	<u>+0.23</u>	<u>-1.97</u>	<u>-1.52</u>	<u>-2.27</u>	<u>+1.95</u>

Source: Department of Statistics of Jordan, Annual Statistical Yearbook 1959 (Industrial Islamic Orphanage Printing Press, Jerusalem), pp.369-370.

- (1) Includes remittances made by charitable institutions and Jordanians abroad.
- (2) United Kingdom Government loans.
- (3) Includes currency cover. A minus sign denotes an increase in reserves and a plus sign denotes a fall in reserves.

C. Public Sector

The public sector in Jordan consists of the Government, the United States Operations Mission (USOM) and the United Nations Relief and Works Agency for Palestine Refugees (UNRWA).

In the following paragraphs, it is proposed to examine the past trend in the expenditure of these organizations with the purpose of gauging the degree of expansion that has taken place in this sector.

1. Jordan Government

The current expenditure of Jordan Government have been financed by two principal sources, domestic revenues, and foreign grants.

Domestic revenues have comprised about 40 percent of total revenues collected by the Jordan Government throughout the period 1952 - 1959. Moreover, domestic revenues have almost doubled in the period under consideration, increasing gradually from J.D. 5.5 million in 1952 to J.D. 10.0 million in 1959 (Table 18). The major source of domestic revenues has been indirect taxes - namely; import duties, excise taxes, a national guard tax, an air force tax and other indirect fees. In 1959, indirect taxes formed 56 percent of all domestic revenues, as against 47 percent in 1952. This trend indicates the growing role of revenues collected indirectly. On the other hand, direct taxes, such as income and land taxes, have not accounted for more than 11 percent of total domestic revenues.

Table 18

Government of Jordan Actual Budget Revenues and Expenditures, (1)
1952 - 1959

(In Thousand J.D.s)

Item	1952	1953	1954	1955	1956	1957	1958	1959
<u>A. Total Revenues</u>	<u>12660</u>	<u>13457</u>	<u>15942</u>	<u>17666</u>	<u>18860</u>	<u>19819</u>	<u>23315</u>	<u>28407</u>
1. <u>Domestic Rev.</u>	<u>5460</u>	<u>5572</u>	<u>5767</u>	<u>7494</u>	<u>7984</u>	<u>8579</u>	<u>9390</u>	<u>10000</u>
Direct taxes	635	740	778	893	937	1090	1115	986 ⁽²⁾
Indirect taxes	2586	2536	2884	3783	4510	5407	5546	5025 ⁽²⁾
Other revenues ⁽³⁾	2239	2296	2105	2818	2537	2082	2729	2989 ⁽²⁾
2. <u>Foreign Grants</u>	<u>7200</u>	<u>7885</u>	<u>10175</u>	<u>10172</u>	<u>10876</u>	<u>11240</u>	<u>13925</u>	<u>18407</u>
United Kingdom	7200	7885	10175	10172	10876	11240	-	2130
United States	-	-	-	-	-	-	8925	16277
Others	-	-	-	-	-	-	5000	-
<u>B. Total Expenditure</u>	<u>13790</u>	<u>13433</u>	<u>15391</u>	<u>16560</u>	<u>17633</u>	<u>20114</u>	<u>23702</u>	<u>29047</u>
Army	7759	7672	8950	9059	9355	11711	12829	15500
Public Security	1542	11384	1233	1157	1275	1377	1562	2080
Education	245	291	357	991	1191	1194	1621	2566
Health & Social								
Welfare	209	187	234	461	514	559	656	924
Other ordinary								
expenses	2373	2223	2501	2200	2537	2600	3788	3725
Extra ordinary ⁽⁴⁾	1672	1676	2116	2692	2761	2673	3246	4252
<u>C. Surplus (-) or</u>								
<u>Deficit (-)</u>	<u>-1130</u>	<u>+24</u>	<u>+551</u>	<u>+1106</u>	<u>+1227</u>	<u>-295</u>	<u>-387</u>	<u>-640</u>

Source: A. Theodorides, USOM/Jordan, The Jordan Budget 1952-1960 (Communications Media Center, USOM/Jordan), pp.3-8.

- (1) Data on actual revenues and expenditures were compiled from the closed accounts of the Ministry of Finance for the years 1952-1956; figures for 1957, 1958 and 1959 are preliminary actual.
- (2) Original budget estimates; estimated domestic revenues in 1959 is less by one million Dinars from the actual revenues.

Table 18 (Cont'd)

- (3) Other revenues consist of license and other fees, revenues of the Post Office, interest and profits from miscellaneous sources.
- (4) Includes Jordan Development Board and other development expenses from the Jordan Budget; exclusive of funds made available by the United States to Jordan, through Development Board, for Technical Cooperation and Special Economic Assistance Development Projects.

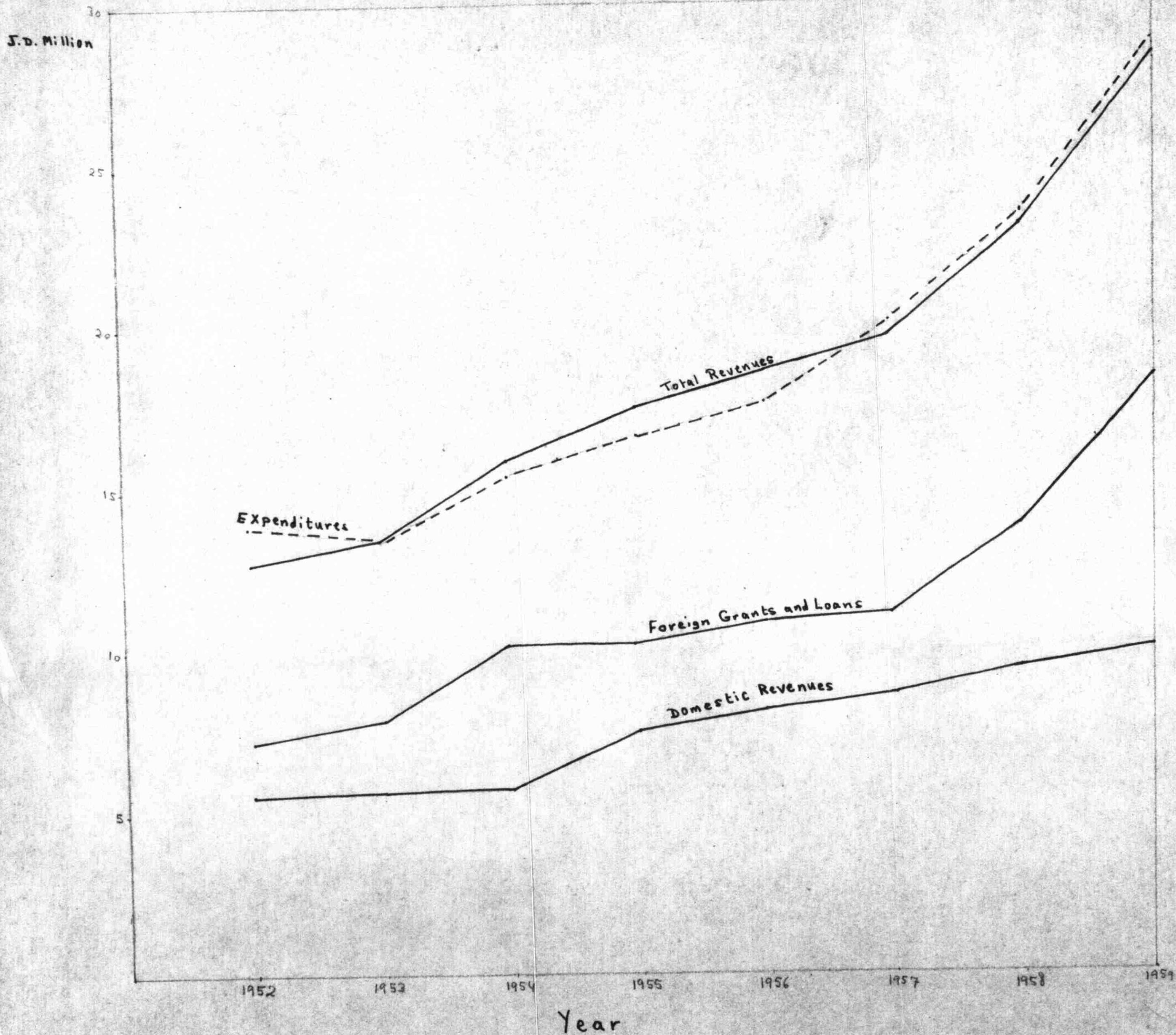
Foreign financial aid amounted to 60 percent of total revenues accruing to Jordan Government throughout the period 1952-1959. It appears from Table 18 that foreign economic aid has increased progressively from J.D.7.2 million to J.D.18.4 million during the period under consideration. This is equivalent to a relative increase of 155 percent. Up to 1957, the United Kingdom was the major contributor of foreign credit; but as of 1958, the United States provided the greater portion of such financial assistance.

In spite of the noticeable rise of total revenues during 1952-1959, Jordan has developed a deficit in its budget over the last three years, which has been financed from previous surpluses, (Chart 3).

Total civilian and military expenditures rose steadily from J.D.13.8 million in 1952 to J.D.29.0 million in 1959. This marked upward trend in overall expenditures can be attributed to the rising costs of maintenance of the armed forces and public

Chart 3

Growth of Jordan Government Income And Expenditures 1952-1959



security, which together accounted for more than 60 percent of all expenditures.

It is of interest to note, at this point, that the Government extraordinary expenditures - mainly on development projects - ~~has increased~~ from J.D.1.7 million in 1952 to J.D.4.2 million in 1959, which is relatively a substantial increase. On the average, extraordinary expenditures have constituted 14 percent of total Government expenditures throughout the period under review.

2. United States Operations Mission (USOM)

The United States, through its Operations Mission, provides Jordan with foreign aid on two levels: ordinary budget support and special technical and development assistance.

Ordinary budget support comprises the bulk of American aid to the country and is paid to Jordan Government for purpose of financing its military and civilian expenditures. This form of American aid appears as the major item of revenue in the Government budget.

In addition, the Operations Mission undertakes with Jordan Development Board special projects which are deemed of crucial importance for the growth of the economy such as construction of the Aqaba Port, the Desert Road and the East Ghor Canal. Approximately 14 million dinars have been spent on special development programs throughout the past eight years. It

appears from table 19 that the magnitude of this special assistance has increased significantly in recent years; and in 1959, it amounted to about 14 percent of all American aid to Jordan.

Table 19

United States Economic and Technical Assistance to Jordan

1952 - 1959

(in thousand J.Ds; U.S. fiscal years ending June 30 of years shown)

Y E A R	Budget Support	Special Development Assistance	T O T A L
1952	-	822	822
1953	-	855	855
1954	-	756	756
1955	-	1561	1561
1956	-	3895	3895
1957	1786	1065	2851
1958	9821	2335	12156
1959	16332	2691	19023
T O T A L	27939	13980	41919

Source: Data quoted from USOM/J tabulations of United States financial aid to Jordan by major programs. These tabulations are issued by USOM Controller.

3. United Nations Relief and Works Agency (UNRWA)

Since 1951, the United Nations Relief and Works Agency for Palestine Refugees has been responsible for providing the bare means of subsistence to almost one-third of Jordan population who are of a refugee status. It supplies the displaced Palestinians with food rations, shelter and medical services.⁽¹⁾

In addition to the relief aspect of its operations, UNRWA has been undertaking various rehabilitation activities - which include an extensive educational system, vocational training centers, a development bank and an aid programme for financing economically feasible agricultural projects that are sponsored by individual refugees.

UNRWA expenditures in Jordan has ranged between 5 and 6 million Jordan Dinars annually, and the yearly average expenditure per refugee has correspondingly varied from 9 to 12 dinars. In 1959, UNRWA expenditures totalled 5.5 million dinars, of which 1.4 million dinars or 25 percent were salary costs.⁽²⁾ Expenditure on self-support projects and vocational education amounted in the same year around half a million dinars, or 9 percent of total expenditures. This is illustrated in Table 20.

-
- (1) A monthly ration for one person consists of 10,000 grs. of flour, 600 grs. of pulses, 600 grs. of rice or sugar and 375 grs. of oil and fats. This basic ration provides a refugee with 1500 calories per day. See: United Nations, Annual Report of the Director of the United Nations Relief and Works Agency in the Near East, 1 July 1958 - 30 June 1959 (New York, 1959), p.3.
- (2) UNRWA Economics Division, "Benefits of UNRWA Expenditure to the National Economics of the Host Countries for 1959" (typewritten report, July 1960).

Table 20

Summary of Jordan Development Expenditures

1952 - 1959

(In thousand J.D.)

Year ⁽¹⁾	Jordan ⁽²⁾ Government Extraordinary	USOM ⁽³⁾	UNRWA ⁽⁴⁾	Total
1952	1672	822	339	2833
1953	1676	855	818	3349
1954	2116	756	1208	4080
1955	2692	1561	1060	5313
1956	2761	3895	934	7590
1957	2673	1065	762	4500
1958	3246	2335	209	5790
1959	4252	2691	512	7455

Source: Refer to Tables 18 & 19 for Jordan Government and USOM/J expenditures respectively. Data on UNRWA expenditures were compiled from: UNRWA, Finance Department, Financial Statements, 1955-1959 (for internal use); UNRWA, Bulletin of Economic Development Number 14: Special Reports on Jordan (Beirut, July 1956), p.121.

- (1) Jordan fiscal year ends on March 31; USOM/J fiscal year ends June 30; and UNRWA fiscal year for the period 1952-1957 ended on June 30, but since 1958 ends on 31 December.
- (2) Jordan Government capital expenditure on development projects, which are called in the general budget extraordinary expenditures.
- (3) USOM/J expenditures according to the 'Special economic and Development Assistance' programmes.
- (4) UNRWA expenditures on special rehabilitation projects and vocational training.

D. Real Estate

Income arising from the real estate sector was estimated to be 10 percent of national income in 1954. According to the IBRD Mission report, the rate of growth of this sector was very low throughout the period 1952-1955, not more than one percent.⁽¹⁾ Recent official estimates, however, indicate that total rents of houses in the Kingdom, both money rent and imputed value of residential dwellings have increased from J.D. 2.96 million in 1957 to J.D.3.29 million in 1958 and to J.D.3.56 million in 1959.⁽²⁾ On this basis, the average annual rate of growth of rents would be in the neighborhood of 9.5 percent.

If both the IBRD Mission and the official estimates are accurate, then real estate must have been expanding at a rapidly increasing pace.

E. Transport

The transport sector was estimated to represent 6 percent of national income in 1954. During the period 1952-1955, this sector was expanding at a high rate, averaging 13 percent per annum.⁽³⁾

No information is yet available on the growth of income arising from transport in more recent years. However, since trucking of phosphates, transit trade and imports have continued

(1) IBRD Mission, Op.cit., p.440.

(2) Data collected from the housing tax section of Jordan Ministry of Finance.

(3) IBRD Mission, Op.cit., p.439.

to pursue a steadily upward trend, it is very likely that the marked growth in the transport sector has been sustained. As noted in Table 21 below, the volume of transport has expanded considerably throughout the period 1952-1959. For instance, there has been a relative increase of 79 percent in quantity carried by rail, of 578 percent in air carriage and 530 percent in sea-transport.

Table 21
Index of Volume of Transport
1952 - 1959

Year	Rail Transport		Air Transport		Sea Transport	
	Tonnage	Index	Tonnage	Index	Tonnage	Index
1952	208712	100	109.4	100	N.A.	-
1953	257109	123	226.9	207	N.A.	-
1954	246637	118	434.7	397	92351	100
1955	305663	146	700.2	640	200876	217
1956	274943	132	786.4	719	143243	155
1957	377777	181	865.1	791	147373	160
1958	308289	148	564.6	516	410217	444
1959	374586	179	741.3	678	582261	630

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks 1958 and 1959, pp.108-111, and pp.130-133 respectively.

Appendix III Table A

Exports of Non-Agricultural Commodities

1952 - 1959

(Value in Jordanian Dinars)

Commodity	1952	1953	1954	1955	1956	1957	1958	1959
<u>Grand Total</u>	<u>90377</u>	<u>169510</u>	<u>298242</u>	<u>865226</u>	<u>1003825</u>	<u>1118049</u>	<u>1141145</u>	<u>1203552</u>
Raw Phosphates	25035	50260	51295	602484	690840	916479	978472	1024403
Stone, clay, cement products, tiles & marble	16086	14543	33356	47153	55428	33859	47609	25666
Cigarettes	-	-	-	-	46834	65238	31228	35848
Mother of Pearl products and moulded articles	21335	32395	48973	34519	46047	28827	22328	21031
Manufactures of wool, cotton and silk	3315	46668	128035	149441	137791	29662	2910	4995
Other commodities	24606	25644	36583	31629	36885	43984	58598	91609

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks 1952-1959.

Appendix III Table B

Imports of Non-Agricultural Commodities ⁽¹⁾

1952 - 1958
(Value in Jordanian Dinars)

Commodity	1952	1953	1954	1955	1956	1957	1958
<u>Grand Total</u>	<u>9876823</u>	<u>10264992</u>	<u>11931098</u>	<u>16909966</u>	<u>18544628</u>	<u>19420271</u>	<u>21072857</u>
Manufactured goods of wool, silk cotton & jute	3367583	3323049	3795112	3541947	3732562	4964107	4400899
Benzine, kerosine, mazout & oils	1259749	1279970	1473271	1827963	2196461	2616992	2515658
Cement and asphalt	692580	762749	269619	189640	92042	198884	481979
Iron & steel products such as beams, barrels, nails, stoves, boilers & other household articles	589225	638070	885601	1439319	1490425	1425931	1723020
Motor cars, trucks, tractors, aeroplanes, other vehicles & motor parts spares	964803	1042885	1300901	2586228	2613786	2173023	2644276
Copper, tin & other base metal products like utensils, spoons, forks & razors	166065	188048	169381	246434	220455	312880	436684
Manufactures of glass such as glass plates, mirrors, bottles, lamps etc.	78884	86440	93222	123886	141099	151702	234591

Appendix III Table B (Cont'd)

Commodity	1952	1953	1954	1955	1956	1957	1958
Baths, sinks, clay-pipes, other manufactures of cement, asbestos, ceramics & earthenware	26247	66828	72191	107963	63482	103221	117595
Agricultural & industrial machinery such as harvestry drills, printing press, typewriters, sewing machines, appliances and pumps	519394	594775	541653	938932	704458	966848	1368050
Electric equipment & wireless sets like transformers & batteries	145099	193652	258859	520329	803562	897524	1356214
Cameras, cinematographic apparatus, glasses & medical equipment & watches	45342	84486	101344	156582	144502	140930	271748
Medical & other chemical preparations	262212	273852	323771	457144	418263	592181	564201
Beer, whisky & other liquors	35489	51683	43483	51588	51018	50746	87828
Movie, films, photography films & developing chemicals	67154	42992	63399	83359	72832	89309	144515

Appendix III Table B (Continued)

Commodity	1952	1953	1954	1955	1956	1957	1958
Perfumes, soap & cleaning preparations	165782	57607	96503	159474	172107	217602	387782
Cigarettes & cigarette papers	37342	14506	23380	26519	16902	27042	40768
Stationery articles, paper & printed matters	215785	252530	359201	413379	343123	468741	525584
Leather shoes and other manufactures	69577	64217	91791	119468	94572	119892	88447
Tyres and other rubber products	261657	255760	308011	552120	553896	847329	984621
Fertilizers	18976	51137	34706	47377	85054	125311	84327
Matches & sulphur	18365	16991	20546	21784	26643	30710	48009
Weapons and ammunitions	76918	59081	10518	36147	64504	46925	39406
Celluloids & plastic products, moulded articles, toys and dolls	21383	37288	39276	48818	56703	86537	105948
Other unspecified commodities	771212	826396	1555359	3213566	4386177	2765904	2420707

Source: Department of Statistics of Jordan, Annual Statistical Yearbooks 1952-1958.

- (1) The value of non-agricultural imports was estimated by Dr. Theodorides to be JD.26.85 million. - A. Theodorides, United States Operations Mission to Jordan, Jordan's Foreign Trade 1950-1959 (Amman, March 1960) p.9.

CHAPTER IV

PLANNING THE ECONOMIC DEVELOPMENT OF JORDAN:

AN INTRODUCTION

A. Objectives

It is evident from the foregoing review of economic trends that Jordan has experienced a marked expansion in its non-agricultural sectors which has largely been offset by sharp fluctuations in its agricultural production. Consequently, it is unlikely that there has been any substantial increase in its national income over the past years.

As things stand today, Jordan suffers from three serious economic problems that are characteristic of an underdeveloped and overpopulated country: An extremely low level of income per head, a very high reservoir of idle human resources and a huge deficit in its balance of payments.

Development policy in Jordan, hence, should aim at increasing appreciably the national income, raising the level of employment and improving the balance of payments. These objectives may, on practical grounds, be conflicting. The path of more employment may sometimes diverge from the path of maximum output. This is the case whenever capital-intensive techniques, rather than labor-intensive ones, are used to maximize production. For instance, increased output under the First-Five Year Plan in India has not correspondingly alleviated the grave unemployment

situations and the issue of employment versus output has assumed great importance. (1)

However, precluding the possibility of a conflict, expansion of Jordan's domestic output may well be assumed to lead to a higher level of employment and to a considerable improvement in the balance of payments position.

B. Income Determinants

Generally speaking, national output depends upon the availability of a combination of factors such as labour, capital, natural resources, technology and the proper social milieu. (2) The expansion of output in underdeveloped areas is always limited by the shortage of certain productive factors. If one scarce factor must be singled out, it will be capital. The deficiency of capital has been described as "the one most nearly omnipresent limiting factor, one that frequently is also the most severe." (3)

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- (1) United Nations, Economic Commission for Asia and the Far East, Economic Development and Planning in Asia and the Far East: Policies and Means of Implementation (Bangkok, 1956), vol.VII, No.3, p.22.
 - (2) There exists a technical relation between output and factor inputs which has found expression in the Cobb-Douglas production function. See: Jan Tinbergen, "On the Theory of Trend Movements", Jan Tinbergen Selected Papers, edited by L.H. Klassen and others (Amsterdam, North Holland Publishing Company, 1959), pp.183-223.
 - (3) N. Buchanan and H. Ellis, Approaches to Economic Development (New York, The Twentieth Century Fund, 1955), p.67.

Thus, capital is considered not only as a central factor to development but also as the most strategic;⁽¹⁾ and "Capital accumulation may very well be regarded as the core process by which all other aspects of growth are made possible."⁽²⁾

In real terms, capital embraces all goods produced for use in future productive activities - namely, machinery, equipment, plants, buildings and producers' raw materials and semi-finished goods. Domestic capital formation is defined as that part of a country's output and imports which are not consumed or exported but is added to the existing stock of capital goods during a period of time.⁽³⁾ The concept of net capital formation or net investment is applied whenever allowances are made for depreciation and obsolescence in the available capital stock.

The rate of growth of income, known also as the rate of economic development, is a function of two fundamental ratios:

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- (1) Some economists like Professor Frankel criticize strongly what they call "a peculiar view of the process of economic development: namely, that capital can do anything", and remark that "the belief in the miracles to be wrought by 'capital investment' per se is an illusion." S. Herbert Frankel, The Economic Impact on Underdeveloped Societies (Oxford, 1953), pp.145 and 100.
 - (2) United Nations, Economic Commission for Asia and the Far East, Programming Techniques for Economic Development, Report of the First Group of Experts on Programming Techniques (Karachi, January 1960), p.16.
 - (3) United Nations, Statistical Office, Concepts and Definitions of Capital Formation (New York, July 1953), Series F.No.3, p.7.

(a) investment to national income; and (b) the average productivity of capital in a given period of production, which is referred to as the product-capital ratio.

If, for illustrative purposes, it is supposed that an economy had attained a rate of net investment equivalent to 10 percent of national income, and the product-capital ratio was 0.5, net income would increase by 5 percent. If, during the same period, population increases by 3 percent, per capita income would grow by 2 percent.

These relationships among the determinants of the rate of economic development have been expressed in algebraic terms:⁽¹⁾

$D = Sp - r$; where D is the rate of growth of per capita income, S the rate of net savings, P the average productivity of new investment per unit of capital, and r is the rate of annual increase of population.

Some times the reciprocal of the product-capital ratio, called the capital-output ratio or the capital coefficient, is used; and the equation will take the form: $D = \frac{S}{K} - r$; where K is the quantity of capital required for the production of a unit of output.

This equation, prima facie, involves an over simplification of the production process, since it assumes that national income

(1) H. Singer, "The Mechanics of Economic Development", The Economics of Underdevelopment (Oxford University Press, 1958), p.396.

is a linear function of capital only. However, a more careful examination will reveal that natural resources and labour are taken into consideration through their effect on the product-capital ratio. The same investment will yield more if applied to rich natural resources than to poor ones. For instance, the average productivity of capital employed in Argentina is very high in view of the abundance of fertile land; whereas in the case of Japan, over-population forces the community to resort to its most inferior natural resources, thereby reducing greatly the average productivity of capital.⁽¹⁾ Similarly, technical skills, improving the productive capacity of labour, are conducive to a higher yield per investment unit.

Recent statistical investigations conducted in the United States and Britain have revealed the relative stability of the ratio of national product to capital.⁽²⁾

Accepting the relative constancy of the product-capital ratio for an economy as empirically valid, it may then be presumed

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- (1) Celso Furtado, "Capital Formation and Economic Development", The Economies of Underdevelopment, Op. Cit., p.24.
- (2) Raymond W. Goldsmith, The Growth of Reproducible Wealth of the United States of America from 1805 to 1950, study submitted for discussion to the 1951 meeting of the International Association for Research in Income and Wealth; cited in: Celso Furtado, Op.Cit., p.325; Jan Tinbergen, Design of Development (Rotterdam, Netherland Economic University; 1956), pp.42-45; Henry Bruton, "Growth Models and Underdeveloped Economies", The Economies of Underdevelopment, Op.Cit., pp.223-230. Bruton gives a short bibliography on the subject.

that the rate of income growth is determined mainly by the ratio of investment to income, termed the investment coefficient.

At this point, it should be noted that saving is strongly influenced by consumers' behavior and the institutional factors that motivate such behavior. The drive towards higher consumption is inherent in the character of modern culture; and high standards of living have been set as criteria for social distinction. As a result, "it becomes difficult for anyone to attain a high status position unless he can maintain a high consumption standard, regardless of any other qualifications he may have."⁽¹⁾

In developing countries, the assimilation of Western technology has two main aspects:⁽²⁾ First, consumption habits of the 'high income' countries have spread rapidly to less developed areas; and secondly, production techniques have tended to spread rather slowly, because of the relatively inadequate capital supplies. This, "new consumption habits are learnt much more rapidly than new production methods, a fact which causes economic and social tensions that can be eased only by accelerating economic development."⁽³⁾

(1) James Duesenberry, Income, Saving and the Theory of Consumer Behavior (Cambridge, Harvard University Press, 1952), p.30.

(2) United Nations, Economic Commission for Latin America, Analysis and Projections of Economic Development; An Introduction to the Technique of Programming (New York, 1955), p.11.

(3) Ibid.

C. Alternative Rates of Development

Having set the growth of national income as the principal objective of Jordanian development policy, and having investigated the determinants of income growth, the next step will be to examine the rates at which such growth may proceed.

The setting of a target rate of development involves a prior study of past economic trends and future possibilities as well as the efforts that a country is ready to make. Moreover, target-setting implies a choice from a number of alternatives; and the higher the development target the greater are the obstacles in the way of its achievement. This is particularly true with respect to capital requirements.

For demonstrative purposes, three alternative rates of development will be contemplated; the 'minimum', 'moderate' and 'accelerated' rates of development.

The minimum rate of development is the rate required to stop a fall in per capita income. It is the lowest target that any plan should seek to attain. However, in countries where population expands at a rapid pace, such a rate entails heavy sacrifices. In Jordan, population grows at an annual average rate of 3 percent. To keep per capita income constant, national income has to increase correspondingly at an annual average rate of 3 percent. The over-all capital to output ratio for the Jordanian economy has been estimated

by some economists to be 4 to 1, and by others 3 to 1.⁽¹⁾ If it is accepted that the national capital-output ratio ranges between 3 to 1 and 4 to 1, it then follows that a rate of investment amounting 9 to 12 percent of national income is required to achieve minimum development.⁽²⁾ Assuming the national income of Jordan to be 42 million dinars in 1959, the capital investment necessary to prevent a fall in per capita income will range between 3.78 to 5.0 million dinars in year 1960.⁽³⁾ A review of the development expenditure over the past years will indicate that the country can meet, without much strain, such capital requirements. During the period 1955-1959, development expenditures in Jordan ranged from 4.5 to 7.5 million dinars (see Table 20).

From the experience of many underdeveloped regions, e.g. Latin America, an annual rate of income growth equivalent to 4.5 percent can be considered 'moderate'. This is slightly higher than the rate of increase of domestic production which the IBRD Mission to Jordan believed to be quite feasible over the next

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- (1) The IBRD Mission has estimated the capital-output ratio for the whole Jordanian economy to be 4 to 1; whereas Professor Zimmerman has figured it to be 3 to 1. See: International Bank for Reconstruction and Development, Op.Cit., p.68. L.J. Zimmerman, Op. Cit., p.9.
 - (2) Use is made of the growth equation which has been propounded earlier. In algebraic terms; $D = \frac{S}{K}$, where D is the rate of income growth, S is the investment coefficient and K is the capital coefficient. If D is 3 percent, K is 4 percent, then S will be equal to 12 percent. In case K is assumed to be 3, S will be 9 percent of national income.
 - (3) Professor Zimmerman recently estimated the national income of Jordan in 1959 to be in the neighborhood of J.D. 42 million. Ibid., p.3.

ten years.(1) A moderate rate of development, equivalent to 4.5 percent annually, will raise per capita income by 1.5 percent. This requires a rate of investment amounting 13.5 to 18.0 percent of national income, or in absolute terms J.D. 5.7 to J.D. 7.6 million.

However, it can be argued that Jordan should aim at a higher rate of development in order to bring about a radical transformation in the structure of its stagnant economy. In this event, an annual income growth of 7 percent, as recently recommended by Professor Zimmerman to the Development Board, may well be taken to represent 'accelerated' development. According to such a rate of growth, average per capita income will increase by 4 percent annually - which is rather high and in practice will encounter great obstacles. With a capital-output ratio between 4 to 1 and 3 to 1, a rate of investment amounting 21 to 28 percent of national income is necessary to make possible the 'accelerated' rate of growth. Given a national income of J.D. 42 million in 1959, the magnitude of capital investment that should be realized in 1960 ranges from J.D. 8.8 to J.D. 11.8 million. The scale of investment will increase as national income rises over the succeeding years.

(1) "In the Mission's view a sustained increase of domestic production of the order of 4 percent is quite possible in Jordan over the 10 year period." See IBRD, Op.Cit., p.66.

D. Techniques of Programming

In certain countries, early development plans consisted of a series of projects which had been formulated by various government departments and then presented as capital budgets for the public sector. These plans were partial in scope and the projects they embodied were not appraised from the standpoint of national costs and benefits. Furthermore, such plans or programmes at times involved large-scale wastes and did little "to ensure that the magnitude of development they provided for correspond to even the minimum requirements for economic growth."⁽¹⁾ This, early planning was neither free from inconsistencies nor all-embracing of the real requirements of the economy as a whole.

For this reason, the need has arisen for what is called 'general programming' - i.e., planning in a consistent and systematic way. In recent years, various techniques of programming have evolved to portray the future development of a country and the most desirable and possible path of growth. Of special importance is the use of models in programming. A development model contains the following main elements:⁽²⁾

- (1) A set of objectives - e.g., to raise per capita income, provide a higher level of employment, and reduce the deficit in the balance of payments

(1) United Nations, Economic Commission for Asia and the Far East, Programming Techniques for Economic Development, Op.Cit., p.11.

(2) United Nations, Department of Economic and Social Affairs, "Use of Models in Programming", Industrialization and Productivity, Bulletin 4 (New York, April 1961), pp.8-9.

- (2) A set of instrument variables, representing the means or policy measures which will be applied to achieve the defined objectives. Examples of instrument variables are the levels of investment and exports.
- (3) A set of economic relationships among the group of Variables.

These relations are often expressed in the form of equations. An equation may describe the response of one economic variable to a change in another (e.g., a consumption function), or express a technological relationship (e.g., a production function), or merely depict an equilibrium condition such as the equality of total demand and supply.

The construction and application of models depend upon the circumstances peculiar to individual countries and the information available to them. Three types of models have been used in development programming: Aggregate models, Sectoral models and Inter-industry models. Simple models of a macro-economic character can be applied in countries which are in the elementary stage of the growth of their statistics.

A typical example of aggregate models is the one dividing a closed economy into two main sectors, the consumption goods and the investment goods sectors. Ignoring inter-sectoral

transactions, the sum of the outputs of the two sectors should equal to national income. Given the desired rate of income growth and the propensity to consume, the demand for consumption in each period can be determined. If such a demand for consumption exceeds existing productive capacity of the consumption goods sector, then the shortage of capacity will be met by new investment in this sector. The magnitude of the new investment will be determined by the multiplication of the capital-output ratio of the sector by the required increase in productive capacity. In case the capacity of the investment goods sector is greater than the amount required by the consumption goods sector, then the excess capacity can be utilized to expand the productive capacity of the investment goods sector itself. Dividing the excess capacity by the capital-output ratio of the capital goods sector, this will yield the amount of increase in the production of that sector. In short, given the capital-output ratios of the two main sectors, the target rate of income growth and the initial levels of production, the distribution of investments between the two sectors will be determined.⁽¹⁾

On the other hand, the availability of detailed quantitative data in certain countries render feasible the utilization of more sophisticated techniques of planning such as 'sectoral' and 'inter-industry' models.

(1) United Nations, Economic Commission for Asia and the Far East, Programming Techniques for Economic Development, Op.Cit., p.31.

Sectoral models are based on the division of the economy into a number of segments or economic sectors. Each sector will be examined from the standpoint of future demand for goods and services, production potentialities and capital requirements. Once individual projections by sectors have been accomplished, they can be combined in an integrated programme which will indicate the magnitude of capital outlays needed in each sector and the order of priority for various investments. Sector projections are widely used, particularly where the poor quality of statistical data do not facilitate the construction of an input-output table or where there exists little interdependence between the productive sectors of an economy. (1)

As regards inter-industry models, they serve to determine the demand for intermediate products and capital goods. Inter-industry models range from the simple forms of input-output matrices to the more complicated linear programming analysis. Recently, for instance, the United Nations Economic Commission for Latin America has applied the input-output technique in the projections of economic development in Columbia, Argentina and Peru. Input-output studies, analyzing long-term development prospects, were also prepared for Italy, Netherlands, Cyprus and other countries.

(1) United Nations, Department of Economic and Social Affairs, "Use of Models In Programming", Op.Cit., p.12.

The object of an input-output model is to depict the interdependence of the various sectors of the economy, and especially to portray the way in which the whole flow of inter-industrial transactions must be modified to cope with a given change in final demand.⁽¹⁾ The economy is usually divided into fifteen or more production sectors and into three to six sectors of final use. Once a double-entry table of inter-industrial relations has been compiled, it becomes feasible to compute the 'technical input coefficient' for each processing sector, representing the amount of intermediate goods purchased by a sector from others to produce one unit of gross output. Assuming a certain value of final demand in each sector, it is possible to solve for the gross production required per sector to meet both final demand and the corresponding input requirements. In its 'static' form, an input-output model assumes a constant relationship between the output of a sector and its inputs. However, a 'dynamic' input-output models take account of technological progress and therefore anticipate changes in input-output coefficients.

With respect to Jordan, it is evident that the shortage of elaborate and reliable data about individual sectors of the economy and particularly about inter-sectoral transactions rule

(1) United Nations, Economic Commission for Latin America, "The Input-Output Model: General characteristics and Applicability to the Case of a Latin American Country", Economic Bulletin for Latin America, vol.I, No.2 (Santiago, 1956), pp.16 and 19.

out the possibility of applying an advance technique of programming, such as linear programming. What is more, the application of a closed economy model of a macro-economic character as the one discussed in a preceding paragraph will be rather unrealistic; since Jordan is extremely dependent on its foreign transactions sector. Under the circumstances, it does not seem very helpful to rely heavily on preconceived models, deduced from the experience of other economies, in planning Jordan's future development.

In the next chapter, a simplified sectoral method will be used to plan the country's development over the next decade. The economy will be divided into three productive sectors - namely, agriculture, industry and services. Then, the capital investment required to develop each sector will be roughly estimated in the light of the potentialities of that sector. Income generated in each of the three sectors as well as sectoral capital-output ratios will also be assessed. Thus, by the utilization of the 'sectoral projection' approach, it becomes feasible to determine the target rate of income growth.

Secondly, the economy will be examined from a macro-economic point of view. The future growth of such aggregates as consumption, exports and imports will be studied in relation with the contemplated expansion of national income and investment.

CHAPTER V
PLANNING THE ECONOMIC DEVELOPMENT
OF JORDAN

A. Sectoral Projections

1. Capital Requirements by Sector

a. Agriculture

As things stand, the agricultural sector supports directly about three-fourths of the non-refugee population of Jordan, contributes roughly 36 percent of the national income, and provides on the average seventy-five percent of the commodities that enter exports. In addition, most of the activities of the other sectors of the economy are carried out in conjunction with agriculture. Thus, the agricultural sector is the basis of the existing economic organization of the country.

An expansion in agricultural output will have favorable repercussions on almost every aspect of the economic life of the country, creating what Professor Hirshman calls a chain of 'forward linkage effects'. It will meet the major part of the rising domestic demand for agricultural consumer products, reduce the great pressure to import food and agricultural commodities, expand exports of vegetables and fruits, and provide the inputs for a local processing industry. Therefore, the development of Jordan's agricultural sector will open the way for further development in other sectors.

It is significant to note that the major opportunity for expanding agricultural production lies in the reclamation of land in the Yarmouk - Jordan Valley. It has been estimated that a comprehensive development of the Valley will bring under irrigation 504,200 dunums and will provide living for 143,000 additional persons either on farms or in other employment arising from farm operations. This project will cost JD.38,828,420 (or \$108,719,600).⁽¹⁾ In return, it will yield an increase in gross farm income equivalent to J.D.13,039,178 (or \$36,509,700); and it will result in an over-all reduction in imports amounting to J.D. 2.36 million.⁽²⁾

On the above basis, it can be seen that the ratio of capital to gross output for this project is 2.98 to 1, and the cost of reclamation per dunum is 77 dinars.

Apart from the Jordan-Yarmouk project, there are development possibilities for irrigating 150,000 dunums. Assuming the cost of reclamation per dunum and the capital-gross output ratio to be approximately the same as the Jordan-Yarmouk scheme, then the total cost of irrigating these 150,000 dunums will amount J.D.11,550,000; and the expected gross income will be J.D.3,982,758.

(1) Baker and Harza Engineering Company, Yarmouk-Jordan Valley Project, Master Plan Report, vol. VIII (Chicago, 1955), p.60,

(2) Ibid., pp.47, 48, 64, and 66.

With respect to rainfed land, there are prospects for the terracing and planting of 60,000 dunums of olives, vines and figs every year at an average cost of J.D.3 per dunum. Over a period of ten years, the cost of planting 600,000 dunums will approximate J.D.1,800,000.⁽¹⁾ The value of the produce of a dunum of rainfed fruit was estimated to be J.D. 4.7 in 1954.⁽²⁾ However, allowing for the rise in prices that has taken place in the last years, the value of the produce of a dunum of fruits may well be taken to be J.D.5. If it is assumed that the period of waiting for returns is six years, then the total yield over a period of ten years will amount J.D.1,200,000.⁽³⁾

For the development of both irrigated and rainfed lands, a total investment of J.D.51,914,508 should be realized over the next decade. This will make possible an increase of J.D.18,221,936 in gross farm income. The ratio of capital to gross output will be 2.85 to 1. If net output is taken to represent eighty percent of gross output, then the net income accruing to Jordan's economy from the contemplated investment will amount J.D.14,577,549. The capital to net output ratio will be 3.56.

(1) IBRD, Op.Cit., pp.88-90.

(2) Ibid., pp.79 and 87.

(3) The above figure was calculated on the basis that only dunums planted in the first four years will give yields:

$$\begin{aligned} 60,000 \times 5 &= 300,000 \text{ dinars} \\ 300,000 \times 4 &= 1,200,000 \text{ dinars} \end{aligned}$$

b. Industry

The prospects for industrial expansion in Jordan seem to lie in (a) setting-up of plants for the processing of agricultural products, and (b) exploiting fully the few mineral resources which exist in the country.

(1) Manufacturing:

There are promising prospects for establishing plants for preserving fruits and vegetables, refining olive oil and producing soap, and manufacturing of local beer. Of equal importance are the chances of developing a textile factory, a sugar refinery and a fish processing plant - all much desired from an import substitution point of view.

It has been estimated that the construction of a textile factory, having a capacity of 10,000 spindles and 255 looms, will necessitate a capital investment of J.D.1.35 million. The plant will yield an annual gross output amounting J.D. 740 thousand at import prices. (1)

A study has also been made in connection with the establishment of a sugar refinery. It is estimated that the construction of a plant for the production of 25,000 to 30,000 tons

(1) S. Dajani and R. Jabri, Cotton Yarn and Textile Weaving Project in Jordan (Amman, April 1955), cited in IBRD, Op.Cit., p.216.

of refined sugar will require an investment in the order of J.D.1.25 million. In return, the refinery will yield an annual gross output of J.D.1 million to J.D. 1.25 million.⁽¹⁾

Both projects will cost J.D.2.60 million and will produce a gross output of J.D. 1.99 million. The ratio of capital to gross output for the two plants is approximately 1.3 to 1. At this point, it should be recalled that the Census of manufacturing establishments for 1954 revealed the high productivity of investment in this sector. According to the 1954 census, the ratio of capital to gross output was less than 1 to 1 (refer to Table 10, Chapter III). The value of net output, however, was estimated to be one third of gross output.

Assuming the ratio of capital to gross output to be 1 to 1 for manufacturing, an investment of J.D. 15 million in various enterprises over the next ten years will yield a gross output of J.D. 15 million. The value of net output will amount J.D. 5 million. In this case the capital to net output ratio will be 3 to 1.

(2) Mining

The exploitation of Jordan's mineral resources represent an important opportunity for raising the level of exports and for "reducing in some degree the dependence of the economy on agriculture."⁽²⁾ Phosphates and potash are the most important known minerals in the country.

(1) Ibid., p.213.

(2) R.S. Porter, Economic Survey of Jordan (Amman, Sept. 1953), p.108.

In 1959, production of raw phosphates reached 337.6 thousand tons (refer to Table 12). Since 1953, about JD.1 million has been invested in phosphate mining. The prospect of enlarging greatly the capacity of the phosphate industry has been investigated. It was found out that in order to raise production to 1,385,000 tons annually over the next decade a capital investment of J.D.1,964,286 (or \$5.5 million) is required.⁽¹⁾ If this production target is attained, there will be an increase in total sales amounting J.D. 4,294,340.⁽²⁾

As regards potash, it has not yet been recovered for commercial uses. The construction of a potash plant, producing 70,000 tons annually, has been recommended. Such a project will require an investment in the order of J.D. 4,437,300 and will generate an annual total income of J.D. 1,225,630.⁽³⁾

The contemplated expansion of both phosphates and potash will necessitate a capital investment in the order of J.D. 6,401, 586; and will yield a gross output of J.D. 5,519,970.

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- (1) Jordan Phosphate Mines Company, Application Submitted to Development Loan Fund, Washington D.C. (Amman, Sept.1958), pp.10, 11 and 90.
- (2) The prospective price of a ton of phosphate, shipped from Aqaba, is 4.1 dinars.
Estimated sales in 1959: 337600 x 4.1 = J.D1,384,160
Estimated Sales in 1969: 1,385,000 x 4.1 = J.D5,678,500
Total Increase in annual sales: 5,678,500 - 1,384,160 = JD.4,294,340
- (3) IBRD, Op.Cit., p.180.

The ratio of capital to gross output for the two minerals is 1.16 to 1. If the value of net output is taken to be one third of gross output, then net income accruing from investment in mining will be J.D 1,839,990. The ratio of capital to net output will be 3.48 to 1.

All in all, the contemplated expansion in industry as a whole will be as follows (value in million dinars):

	<u>Investment</u>	<u>Gross Output</u>	<u>Net Output</u>	<u>Capital/Net Output Ratio</u>
Manufacturing	15.00	15.00	5.00	3.00
Mining	<u>6.40</u>	<u>5.52</u>	<u>1.84</u>	<u>3.48</u>
Total	21.40	20.52	6.84	3.13

c. Services

The development of Jordan's productive sectors should be complemented by the extension of services connected with tourism, transport, education, health, housing, water supplies and other 'social overhead capital'. These are basic services "without which primary, secondary and tertiary productive activities can not function."⁽¹⁾ The extension of many of these services is advocated not so much because of its direct effects on output but because it encourages the initiation of 'directly productive activities'.

(1) A. Hirschman, The Strategy of Economic Development (New Haven, Yale University Press, 1959), p.83.

(1) Tourism

It is generally agreed that a major opportunity for increasing Jordan's foreign exchange earnings is to develop its tourist trade. This can be done by enhancing the capacity of the presently inadequate hotel accommodations, improving the transport facilities to historic sites and advertising extensively abroad.

In 1959, income from tourism amounted J.D.2.85 million (Table 17). Professor Zimmerman, analyzing the trend in exports, conceives an increase of J.D. 10 million in tourist proceeds over the next decade.⁽¹⁾ Assuming a capital to output ratio of 1 to 1 for this field, it can be seen that an investment of J.D. 10 million should be realized in the next ten years to achieve this goal.

(2) Transport

The expansion of Jordan's agricultural and industrial output necessitates the development of an adequate transport system. Internal transport facilities should be expanded to link the various parts of the country more closely together and thereby widen the local market. Secondly, the outlets of the economy should be improved to facilitate foreign trade transactions.

(1) L.J. Zimmerman, Op.Cit., p.5.

Before the Palestine War, the transport net work of the country was oriented on an east-west basis and the national route for exports and imports was via Haifa. However, with the disruption of the normal routes of the economy, the need has arisen for the re-orientation of the transport system on a north-south basis. Some progress has been made in this direction by the construction of the Amman-Aqaba road and the widening of the capacity of the Aqaba port.

However, it should be mentioned that communications are still extremely poor and primitive in the South-Western part of the country, which includes the Jordan Valley. In view of the rising economic significance of this region, it is very essential that a satisfactory transportation net-work should be established there.

It is equally obvious that Jordan should extend the facilities of its airports, particularly at Jerusalem, in order to give an impetus to the growing tourist trade.

The IBRD Mission to Jordan has recommended an investment programme for developing transport involving a capital expenditure of J.D. 10.28 million over the period 1955/56 - 1964/65.⁽¹⁾ The programme entailed the setting-up of an extensive net work of primary and secondary roads, the reconstruction of the Jordan Hedjaz railway, the enlargement of the Aqaba port, and the extension of the facilities of Jerusalem and Amman airports.

(1) IBRD, Op.Cit., pp.284-290.

A similar programme may be conceived for the development of transportation over the coming ten years. If an amount of capital in the order of J.D. 10 million is invested in the next decade, and assuming a capital-output ratio of 4 to 1 for transport, it will generate an income equivalent to J.D 2.5 million.

(3) Other Services

There is a great need for developing Jordan's domestic water supplies and hydro-electric power. No estimates are available on total capital requirements in this field. However, it should be mentioned that the development of the Azraq water resources and hydro-electric power potential - alone - requires a capital investment of J.D 18 million (\$ 50 million).⁽¹⁾

Again, there are no available estimates on the amount of capital necessary for extending services connected with education, health, housing and other 'social overhead capital'.

From the experience of other countries like the Syrian Region of the United Arab Republic, it is known that approximately 22 percent of total development requirements are allotted to the above referred services.⁽²⁾

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- (1) The Government of Jordan, Memorandum to the German Federal Republic for Economic and Technical Cooperation and Assistance, Section B, p.3.
 - (2) Ministry of Planning, Syrian Region, The Five-Year Plan of Development 1960/1961 - 1964/1965 (Damascus, June 1960), p.13.

Therefore, it may not be unrealistic to conceive over the next decade an expenditure of J.D. 30 million on social development projects, falling under "other services". This amount is equivalent to 24 percent of the total capital investment needed for Jordan's development. Assuming a capital to output ratio of 4 to 1, such an investment will generate an income of J.D. 7.5 million.

All in all, the contemplated expansion in the services sector as a whole will be as follows (value in million dinars):

	<u>Investment</u>	<u>Income</u>	<u>Capital-Output Ratio</u>
Tourism	10.0	10.0	1
Transport	10.0	2.5	4
Other Services	<u>30.0</u>	<u>7.5</u>	<u>4</u>
	50.0	20.0	2.5

2. Income Growth

It can be seen from the foregoing rough projections of sectoral capital requirements that a total amount of J.D 123.3 million should be invested over a period of ten years to achieve an increase in national income of J.D 41.4 million. The weighted capital to output ratio for the whole economy has been found out to be 2.98 to 1, as indicated in the appended summary table:

<u>Sector</u>	<u>Capital Investment</u> <u>J.D. Million</u>	<u>Income</u> <u>J.D. Million</u>	<u>Capital-Income</u> <u>Ratio</u>
Agriculture	51.91	14.58	3.56
Industry	21.40	6.84	3.13
Services	<u>50.00</u>	<u>20.00</u>	<u>2.50</u>
Total	123.31	41.42	2.98

The national income of Jordan in 1959 was estimated to be J.D 42 million. According to the above projection, national income will double over the next ten years. By 1969, it will rise to J.D 83.42 million. This implies that national income will grow at an annual rate of 7.1 percent.

The rates of growth of the three productive sectors have been computed in Table 22. While agriculture and services will expand at an annual rate of 6.9 percent and 6.2 percent respectively, industry is expected to grow at a rate of 13.4 percent per annum.

Table 22

The Growth of Agriculture, Industry, and Services Over the
Ten Year Planning Period 1960-1969

Sector	1959 ⁽¹⁾		Income Increase over 10 years		1969		Annual Rate of ⁽²⁾ Income growth
	J.D. Million	Percent	J.D. Million	J.D. Million	Percent	Percent	
Agriculture	15.20	36.3	14.58	29.78	35.7	6.9	
Industry	2.70	6.4	6.84	9.54	11.4	13.4	
Services	<u>24.10</u>	<u>57.3</u>	<u>20.00</u>	<u>44.10</u>	<u>52.9</u>	<u>6.2</u>	
Total	42.00	100.0	41.42	83.42	100.0	7.1	

Table 22 (Cont'd)

Notes

- (1) No information is yet available on the exact share of the economic sectors in the national income of Jordan in 1959. However, the contribution of each sector percentage-wise, in years 1952, 1953 and 1954 was averaged and then assumed roughly to be representative of 1959.
- (2) The annual rate of income growth is calculated on the basis of this formula:

$$N_t = N_o (1 + g)^t$$
; where N_t is national income in the prognosticated year, N_o is national income in the base year, g is the annual rate of income growth and t is the time interval.

If $N_t = 83.42$, $N_o = 42$, $t = 10$ years, then g is:

$$83.42 = 42 (1 + g)^{10}$$

$$\log 83.42 = \log 42 + 10 \log (1 + g)$$

$$1.9213 = 1.6232 + 10 \log (1 + g)$$

$$0.2981 = 10 \log (1 + g)$$

$$0.0298 = \log (1 + g)$$

$$\text{Antilog } 0.0298 = 1 + g$$

$$1.071 = 1 + g$$

$$0.071 = g$$

As a result, the share of industry in the national income will rise from approximately 6.4 percent in 1959 to 11.4 percent, while the share of services will drop from 57.3 percent to 52.8 in the same period. The percentage share of agriculture will almost remain the same.

Having determined the rate at which income should grow, it becomes feasible to project the magnitude of national income that will be available in each year of the planning period. With the aid of the over-all capital to output ratio, the amount of capital invested in each year of the planning period can also be calculated. This is illustrated in Table 23:

Table 23

The Growth of National Income and Investment Over the
Ten-Year Planning Period, 1960-69

	National Income J.D Million	Over-all Capital to Output Ratio	Investment J.D Million	Capital Accumula- tion J.D Million
1960	45.00	2.98	8.94	8.94
1961	48.19	2.98	9.51	18.45
1962	51.61	2.98	10.19	28.64
1963	55.27	2.98	10.91	39.55
1964	59.19	2.98	11.68	51.23
1965	63.39	2.98	12.52	63.75
1966	67.82	2.98	13.41	77.16
1967	72.71	2.98	14.36	91.52
1968	77.87	2.98	15.37	106.89
1969	83.40	2.98	16.48	123.37

B. Aggregate Projections

Having projected growth in the productive sectors of the economy, it would be of interest to investigate the future trend in the expansion of such aggregates as consumption, exports and imports. A practical approach is to look at the economy from the standpoint of the Keynesian definitional equation of national income.

For an open economy, national income is equal to consumption plus investment and exports minus imports. In symbols:

$$Y = C + I + E - M$$

$$B = M - E$$

Where Y stands for national income, C for consumption, I for investment, E for exports, M for imports, and B for imports minus exports.

As stated earlier, the national income of Jordan in 1959 was estimated to be J.D. 42 million. Furthermore, the balance of payments statement (Table 17) indicates that visible and invisible exports amounted to J.D. 9.95 million. Imports on the other hand reached J.D. 42.82 million. Thus, capital inflow (M - E) in that year amounted to J.D. 32.87 million.

No precise information is available on the magnitude of investment. From Table 20, it can be seen that public development expenditure in 1959 was approximately J.D. 7.5 million, including certain expenditure on vocational education of UNRWA and other activities.

not of a capital nature. Hence, public capital expenditures for that year was less than J.D. 7.5 million, and possibly in the neighborhood of J.D. 5 million. Under the circumstances, it may be realistic to assume that both public and private investment in 1959 did not exceed J.D. 7.5 million, or 10 percent of national income plus capital inflow.⁽¹⁾

On the above basis, the situation by the end of 1959 can be summarized as follows (value in million dinars):

$$Y = 42$$

$$I = 7.5$$

$$E = 9.95$$

$$M = 42.82$$

$$\text{Therefore } C = 67.4$$

It is evident that consumption exceeded national income by 60 percent. Had it not been for the considerable flow of foreign grants and loans, the country's level of consumption would have tragically fallen below the prevailing minimum subsistence standard.

1. Targets

To project the situation of the economy in 1969 - i.e., after ten years - it is necessary to set certain targets.

a) Doubling the national income

It is proposed that national income should grow at an annual rate of 7.1 percent throughout the planning period. Such a rate

(1) L. Zimmerman, Op.Cit., p.4

of growth will almost double the national income of Jordan over the next ten years. Accordingly, national income will rise from J.D. 42 million in 1959 to J.D. 83.4 million in 1969.

b) A Constant Per capita Consumption

Furthermore, it is stipulated as a target that consumption should expand at a rate equivalent to population growth - i.e., 3 percent annually. This implies that there will be no improvement in the standard of living during the ten year planning period.

Domestic consumption, as already expounded, amounted J.D. 67.4 million in 1959. If consumption will expand at a rate of 3 percent annually, this will result in an increase of J.D. 23.1 million over the next ten years. In 1969, the tenth year, consumption will reach J.D. 90.5 million.

2. Instrument

The instrument^{Variables} for achieving the above defined goals are the volume of investment and the level of capital inflow (B) as determined by foreign trade transactions (M - E).

a) Investment

From the previous analysis of sectoral growth, it is evident that an amount of J.D. 123.3 million is required to achieve the target of income growth. Specifically, in 1969, an investment of J.D. 16.48 million should be realized (refer to Table 23).

b) Capital Inflow

The inflow of a considerable amount of foreign assistance is a sine qua non for achieving the production and consumption targets set forth in the preceding paragraphs.

Having determined the magnitude of national income, investment and consumption in 1969, it is possible to compute the foreign capital inflow required for that year:

$$Y = C + I + E - M$$

$$B = M - E$$

$$Y + B = C + I$$

In the prognosticated year,

$$Y = 83.4 \text{ million dinars}$$

$$C = 90.5 \quad " \quad "$$

$$I = 16.5 \quad " \quad "$$

$$83.4 + B = 90.5 + 16.5$$

$$B = 23.6$$

Foreign capital amounting J.D. 23.6 million should accrue to Jordan's economy in 1969. This is necessary, because domestic production per se can not maintain the stipulated levels of investment and consumption expenditures.

Table 24 has been constructed portraying the expansionary path that the above mentioned aggregates will pursue throughout the ten year planning period.

It can be seen from Table 24 that the magnitude of capital inflow required over the next ten years is in the order of J.D.294 million.

Table 24
Projected Growth of Population, National Income, Per Capita
Income Consumption & Investment Over the Planning Period,
1960-1969
 Base Year = 1959

End of Year	Population ⁽¹⁾	Per Capita Income	National Income ⁽²⁾	Capital Inflow ⁽³⁾	Consumption	Investment
1959	1658313	25.3	42.00	32.90	67.40	7.50
1960	1708062	26.35	45.80	33.34	69.40	8.94
1961	1759304	27.39	48.19	32.82	71.50	9.51
1962	1812083	28.48	51.61	32.18	73.60	10.19
1963	1866445	29.61	55.27	31.44	75.80	10.91
1964	1922438	30.79	59.19	30.59	78.10	11.68
1965	1980111	32.01	63.39	29.53	80.40	12.52
1966	2039514	33.29	67.89	28.32%	82.80	13.41
1967	2100699	34.61	72.71	26.95	85.30	14.36
1968	2163720	35.99	77.87	25.40	87.90	15.37
1969	2228632	37.42	<u>83.40</u>	<u>23.58</u>	<u>90.50</u>	<u>16.48</u>
Total:			624.52	294.15	795.30	123.37

Notes:

- (1) Population is assumed to grow at an average rate of 3 percent annually.
- (2) National income is stipulated to grow at an annual rate of 7.1 percent (Target)
- (3) The magnitude of capital inflow is computed according to the equation:

$$Y = C + I + E - M$$
 If $B = M - E$
 Then $Y + B = C + I$
- (4) Consumption is planned to expand at a rate of 3 percent yearly (Target)
- (5) Investment for each year is calculated by multiplying the income increase in that year by the over-all capital-output ratio for Jordan, 2.98 to 1.

(1) Exports

It would be of interest, at this stage, to investigate the trend in the expansion of exports and imports over the next decade.

Dr. Theodorides has very recently prepared a study which contains an analysis of exports and imports in relation to domestic requirements and production. He classified commodities entering foreign trade into five groups.⁽¹⁾

1. Commodities not produced in the past and not likely to be economically produced in the future, because of unfavorable physical and other factors.
2. Commodities not produced in the past, but which might be economically produced in the future to meet part of all of domestic demand.
3. Commodities partly produced at home and partly imported in the past but which might be produced in quantities for a larger share of the domestic market and for export in the future.
4. Commodities normally produced in quantities in excess of effective domestic demand, for export, in the past, and with prospects for larger exports under more favorable demand and other factors in the future.
5. Commodities falling into the category of semi-luxuries and luxuries.

(1) Dr. A. Theodorides, Jordan's Foreign Trade - A Measure of the Country's Need for Economic Development (Amman, USOM/J, 1960), pp.1,2.

According to the study, one third of the imported goods in 1959 belonged to 'Group 1' - i.e., commodities not likely to be produced locally in the foreseeable future (See Annex V Table A). There are prospects for replacing the greater part of the remaining two thirds of imports, (Groups 2, 3, 5) through domestic production. In addition, it is anticipated that the exports of commodities falling under 'Group 4' will increase substantially in the future.

It does not seem too far-fetched, therefore, to assume that the capacity of the exports industry, taking into consideration import substitution, can grow from J.D 3.4 million in 1959 to J.D. 26.6 million in 1969. In other words, it is conceived that visible exports will increase over the next decade up to an amount equivalent to two thirds of the value of imports in 1959. This means an average yearly increase of J.D 2.32 million.

As regards invisible exports, Professor Zimmerman conceives the maximum attainable level by 1969 to be J. D 16 million - i.e., an increase of J.D 9.3 million in the next ten years.⁽¹⁾

Thus, it is foreseen that both visible and invisible export proceeds will total J.D 42.6 million in 1969.

(2) Imports

According to the above projections, the value of imports in 1969 will be J.D 66.2 million. This is calculated in the

(1) L. Zimmerman, Op.Cit., p. 5

proceeding manner (value in J.D. million):

$$B = M - E$$

$$B = 23.6$$

$$E = 42.6$$

$$M = 23.6 + 42.6 = 66.2$$

It is evident that exports in 1969 will amount approximately two-thirds of imports.

To sum up, the state of the economy after ten years appears to be:

National income will rise from J.D 42 million in 1959 to J.D 83.4 million in 1969, consumption from J.D 67.4 million to 90.5, million, Investment from J.D 7.5 million to J.D 16.5 million, Exports from J.D 9.95 million to J.D 42.6 million, and imports from J.D 42.8 million to 66.2 million.

ANNEX V TABLE A

Imports and Exports of All Major Commodities In Specified
Years, 1952-1959, Grouped According to
Jordan's Dependence on Imports(1)

	Amount In Thousand J.D's				Percent of All Imports			
	1952	1955	1958	1959	1952	1955	1958	1959
<u>Imports</u>								
<u>Agricultural</u>								
Group 1(2)	1,999	2,178	2,523	2,749	12	8	8	7
Group 2(3)	1,131	1,385	2,321	1,883	7	5	7	5
Group 3(4)	3,316	5,046	6,548	7,500	18	19	19	18
Group 4(5)	<u>10</u>	<u>15</u>	<u>65</u>	<u>16</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>
Sub-Total	6,456	8,624	11,457	12,148	37	32	34	30
<u>Non-Agricultural</u>								
Group 1(2)	2,021	5,663	7,954	10,095	12	21	23	25
Group 2(3)	4,915	6,521	8,284	9,739	28	24	24	24
Group 3(4)	1,547	1,480	2,423	2,890	9	5	7	8
Group 4(5)	<u>19</u>	<u>48</u>	<u>84</u>	<u>94</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>
Sub-Total	8,502	13,712	18,745	22,818	49	50	55	57
<u>Agricultural & Non-Agricultural</u>								
Group 1(2)	4,020	7,841	10,477	12,844	24	29	31	32
Group 2(3)	6,046	7,906	10,605	11,622	35	29	31	29
Group 3(4)	4,863	6,520	8,971	10,390	27	24	26	26
Group 4(5)	<u>29</u>	<u>63</u>	<u>149</u>	<u>110</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>	<u>Neg.</u>
Total(6)	14,958	22,330	30,202	34,966	86	82	89	87

	Amount in Thousand J.D.'s				Percent of All Imports			
	1952	1955	1958	1959	1952	1955	1958	1959
<u>Total Imports</u>	<u>17,335</u>	<u>27,059</u>	<u>34,029</u>	<u>40,328</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
<u>Exports</u>								
<u>Agricultural</u>								
Group 3 ⁽⁴⁾	292	265	274	306	23	10	9	10
Group 4 ⁽⁵⁾	<u>904</u>	<u>1,434</u>	<u>1,513</u>	<u>1,246</u>	<u>70</u>	<u>55</u>	<u>48</u>	<u>40</u>
Sub-Total	1,196	1,699	1,787	1,552	93	65	57	50
<u>Non-Agricultural</u>								
Group 3 ⁽⁴⁾	14	20	32	17	1	1	1	1
Group 4 ⁽⁵⁾	<u>25</u>	<u>634</u>	<u>1,022</u>	<u>1,086</u>	<u>1</u>	<u>24</u>	<u>33</u>	<u>35</u>
Sub-Total	39	654	1,054	1,103	2	25	34	36
<u>Agricultural & Non-Agricultural</u>								
Group 3 ⁽⁴⁾	306	285	306	323	24	11	10	11
Group 4 ⁽⁵⁾	929	2,068	2,535	2,432	71	79	81	78
Total	1,235	2,353	2,841	2,755	95	90	91	89
<u>Total Exports</u>	<u>1,280</u>	<u>2,619</u>	<u>3,139</u>	<u>3,098</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

Source: Dr. A. Theodorides, Jordan's Foreign Trade 1952-1959 - A Measure of the Country's Economic Development (Amman, USOM/J, Jan.1960), pp.10, 11 and 27-33.

- (1) Includes commodities imported or exported in excess of J.D.19 thousand.
- (2) Consists of commodities not produced in the past and not likely to be economically produced in the foreseeable future - e.g., rice, lumber, tea, coffee, cotton, iron and steel, industrial machines and parts, trucks and autos, generators, motors, electric apparatus, office machines etc.

- (3) Consists of commodities not produced in the past, but which under more favorable conditions, might be economically produced in the future in Jordan to meet part of all of domestic requirements - e.g., sugar, edible vegetables fats, walnuts, oil and fat for soap, cotton fabrics, woven fabrics of silk and synthetic fibres, solar and mazout oil, benzine and kerosine, pharmaceuticals and antibiotics, canned fish, etc.,
- (4) Consisting of commodities partly produced at home and partly ^{imported} in the past which, under more favorable conditions, might be produced in quantities for larger share of the domestic market and foreexport in the future - e.g., wheat flour, live animals, barley, tobacco, citrus fruits, apples, potatoes, butter, cheese, eggs, pea nuts, samneh, sesame, cement, tanned leather, glass and glassware, stockings, men's and boys' outer garments, rubber shoes, pull overs of wool, sugar confectionery, matches, files, etc..
- (5) Consisting of commodities normally produced in quantities in excess of effective domestic demand, for export, in the past, and with prospects for larger exports under favorable demand and other factors - e.g., tomatoes, water melon, cabbage and cauliflower, raw hides and figs grapes, olive oil, fertilizers, cigarettes, mother of pearl articles etc.
- (6) The above total does not include luxuries and semi-luxuries - e.g., tobacco, radio and television sets, refrigerators, cocoa, pocket watches, toilet soap, household linen, beer, whisky, toys, etc.

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