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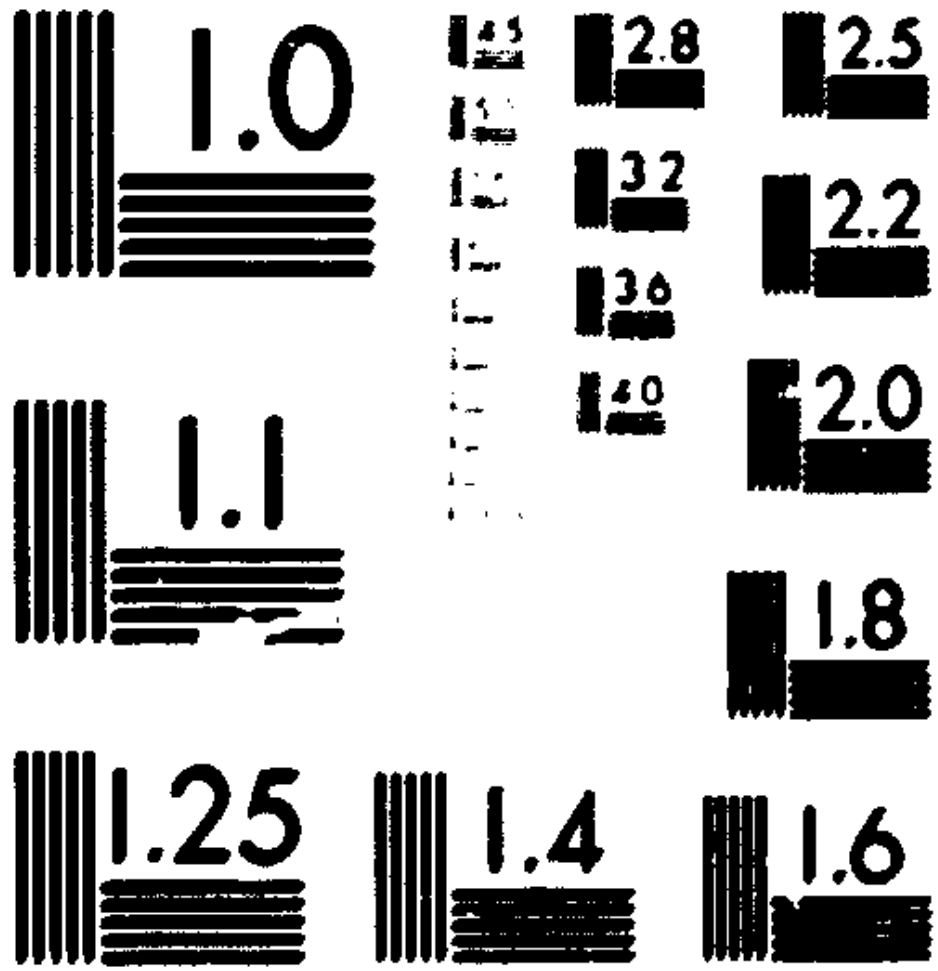

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COUNTRY INDUSTRIAL DEVELOPMENT PROFILE OF JORDAN*.

PROBLEMS AND PROSPECTS

Prepared by the
International Centre for Industrial Studies

Ansari d

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PREFACE

The International Centre for Industrial Studies, Regional and Country Studies Section, has undertaken, under its 1978-1979 work programme, the preparation of a series of Country Industrial Development Profiles. These profiles are desk studies, providing statistical and economic analyses of the industry sector, its growth, present status and future prospects. It is hoped that the profiles will provide analyses of use to programming technical assistance, industrial redeployment and investment co-operation activities.

This profile on Jordan is based on documents, reports and studies available at UNIDO Headquarters. No field survey has been undertaken and some of the data on industry are not up-to-date.

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

This profile has been written by Javed Ansari, UNIDO consultant.

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EXPLANATORY NOTE

References to dollars ($) are to United States dollars, unless otherwise stated.

The monetary unit in Jordan is the Jordanian dinar (JD). Currently 1 JD = 3.445 $ (Approximate - since 1975 the JD has been pegged to the SDR).

SUMMARY AND CONCLUSIONS

Upon the partition of Palestine and the end of British rule in 1949, Jordan became an independant country. Immediately following independence, and again after the June war of 1967, which resulted in the loss of the West Bank, Jordan faced severe economic and social difficulties but on the whole the country, with a 1977 population of about 2.9 million (including 0.9 million living in the West Bank) and per capita GNP of (current) $ 710 (World Bank data), has experienced a fairly high rate of economic growth. More than most countries, Jordan's economy reflects the state of political relations with neighboring countries; on the one hand, Palestinean refugees have been a major source of skilled labour and substantial investment funds have come from oil-exporting Arab countries and, on the other hand, skilled labour and manufactures are exported to the Arab countries. Jordan has consistently followed a market oriented development strategy, open to private entrepreneurship and to external trade and investment, mixed with public and joint ventures for some large projects.

The share of value added in manufacturing and mining in GDP rose gradually (but not very steadily) from 7.7 per cent in 1960 to 15.8 in 1975 (or about 12 - 13 per cent excluding mining), but growth rates of the sector varied widely from year-to-year. Industry in Jordan is largely minerals based. Petroleum refining, basic metals and chemicals grew rapidly from 1960 (5 per cent share of manufacturing and mining) to 1976 (32 per cent). The 1976 share of mining was 19 per cent and basic metals took 12 per cent of the total. In all of these sectors, large export-oriented firms, mostly joint ventures or publicly-owned, predominate. The share of food, beverages and tobacco was 17 per cent and the share of textiles, apparel, leather and footwear 15 per cent. The proportion of the labour force engaged in manufacturing grew slightly over the period 1960-1976 to reach almost 9 per cent in the latter year. Manufactured imports came largely from the OECD countries and manufactured exports went almost entirely to Arab countries.

In the future high rates of growth are expected in chemicals, petroleum refining, mining and quarrying, non-metallic minerals, basic metal products and electrical machinery.

UNIDO's involvement in the industrialization of Jordan is rather limited at present, but future assistance will need to focus on regional industrial integration projects, development of resource based industries, investments related to the labour migration agreement between Jordan and some of its neighbours and development of small-scale traditional enterprises.

Chapter I

ECONOMIC BACKGROUND

Pattern of economic development

The Hashmite Kingdom of Jordan was established in 1949. Its total area comprised of 97,500 square kilometers. After the June War of 1967, 6,000 square kilometers were lost to Israel. Since its establishment the Jordanian State has been experiencing severe economic and social difficulties. Following the partitioning of Palestine in 1949, Jordan had to absorb a refugee influx which tripled its population in the course of a few months. In 1950 it had a population of about 1.2 million and a meagre resource base. The cultivable area amounted to no more than 9 per cent of the total area of the country. On the East Bank the cultivable area was only 6 per cent. There was, however, substantial deposits of high grade phosphates in the East Bank and mineral salts in the Dead Sea. In the early days of its independence, Jordan was heavily dependent on imports (which amounted to over 20 per cent of GDP) but found its sources of communication and transportation with its major trading partners disrupted due to the estrangement with Israel. It had to completely re-route its trade on the one hand and to find means for financing its rapidly increasing import demand on the other.

In the period up to the June War, Jordan's economic performance was impressive. Over the period 1952-1954, according to World Bank estimates, GDP at current prices had increased at an annual rate of about 10 per cent. During the period 1954-1966 the rate of growth of GNP was over 11 per cent per annum. [1/] GDP at constant prices was estimated at about 8 per cent by the National Planning Council.

The Council in its discussion of Jordan's development (Five Year Plan 1976-1980) breaks down the pre-1967 era into two sub-periods: the first, 1948-1961, was characterized by substantial public sector investment in the Jordanian socio-economic infrastructure - construction, transporta-

tion, health and education - and by the relatively rapid emergence of a complex of small and medium sized firms manufacturing cement, vegetable oil and petroleum based products. During this period the services sector grew at a rate of over 12 per cent per annum which was roughly equivalent to the rate of expansion achieved by industry and significantly faster than the rate of growth of agriculture. The latter grew at a rate of only 2 per cent per annum.

During this period gross capital formation increased from constituting 11 per cent of GDP in 1954 [2] to over 18 per cent in 1961-1962 - with private sector investment being twice as large as public investment. Private investment was divided in equal proportion between manufacturing inputs, construction and transport equipment. This investment growth contributed significantly towards an increase in Jordan's trade deficit from JD 17 million in 1954 to JD 36.6 million in 1961 - an annual average growth rate of 10.8 per cent. The ratio of capital imports to total imports increased from 4 per cent in 1950 to 11 per cent in 1961. Exports increased from JD 1.5 million in 1950 to JD 4.3 million in 1961 - the share of mineral and manufactured exports rose from 6 per cent of total exports in 1954 to 9 per cent in 1961. The Jordanian Government stresses (and the World Bank confirms) that the period 1950-1961 was characterized by price stability. According to the Government "in spite of expansion of the monetary sector and an increase in money supply ... the general price level rose only slightly at an average not exceeding 2 per cent per annum". [3]

This relative price stability was maintained during the period 1961-1966, which saw the introduction of the First National Development Plan. [4] Its main aims were: (a) to achieve an annual growth rate of 7 per cent in GNP, and (b) to substantially reduce the trade deficit and Jordan's dependence on foreign aid. The period 1962-1966 saw the Jordanian economy expanding rapidly; GNP increased at a rate of 9 per cent per annum, real GDP per capita grew at approximately 3 per cent per annum. Furthermore, agricultural incomes rose at an annual rate of 6 per cent - a marked improvement over its previous performance. Industrial expansion maintained its former growth rate but expansion in the service sector was moderate. The ratio of gross capital formation to GDP remained at about 18 per cent, similar to the level achieved in the last years of the 1950-1961 period, but the composition of gross fixed capital formation changed significantly.

In the period 1962-1966 public sector investment accounted for a large proportion of domestic capital formation; its rate of growth was twice as high as that of private sector investment. Public sector investment was concentrated in the construction sector and in socio-economic infrastructure development. Public sector investment was relatively capital intensive and an expansion in the public sector was accompanied by a significant increase in the incremental capital-output ratio. 5/

The second major target of the First Plan proved more elusive. There was a continuous increase in the trade deficit 6/ but there were some encouraging changes in the import and export structure. Consumer imports as a portion of total imports declined by 8 per cent over the period and non-agricultural exports increased their share of total exports by over 11 per cent. Government reliance on foreign assistance was also reduced. The ratio of foreign aid to total government receipts declined by 10 per cent over the period 1961-1966. The Government continued to rely heavily on indirect taxes as a major source of its domestic revenue.

The period 1967-1972 was marked by a serious curtailment of the development effort. The Israely occupation of the West Bank meant that Jordan had to absorb over 400,000 refugees. This was accompanied by an increase in military expenditure. There was a collapse of confidence in the private sector and its investment was substantially affected. There was contraction in both agricultural and industrial income and a marginal expansion in the services sector. In order to offset the recession Government public sector spending increased rapidly. Public capital formation was concentrated in the construction and public work sector and in infrastructure development. Government consumption and investment, along with a rapid inflow of Arab financial assistance, fuelled inflationary pressures within the Jordanian economy. Money supply increased to an annual rate of over 10 per cent during the period 1967-1972; the cost of living index increased by 30 per cent over this period 7/ and "this led to a decline in per capita income". 8/ The balance of payments position worsened with a decline in tourist income and in net factor income remitted from overseas. Government reliance on foreign assistance increased significantly.

In 1972 the Three Year Development Plan was inaugurated. It aimed at an annual GDP growth rate of 8 per cent per annum, a reduction in the trade deficit ar' external dependence and the creation of 70 thousand new jobs to absorb the expanding labour force. The annual growth rate in real GDP has been of the order of 5.9 per cent over the period 1972-75; prices increased at a rate of 10 per cent per annum - most of the price increase originated in the agricultural sector, where value added actually declined at 1 per cent per annum. On the other hand the industrial sector grew at a phenomenal rate of over 23 per cent per annum - mainly due to expansion in phosphate production and in the construction industry. Gross capital formation amounted to 31 per cent of GDP during this period. Public sector investment accounted for almost 45 per cent of gross capital formation. Most of this was concentrated in construction and transport. The construction sector accounted for 67 per cent of total investment during the period 1973-75. The capital intensive nature of the investment undertaken during the Three Year Plan period is indicated by the fact that the incremental capital-output ratio had an estimated value of 5.1 in the 1973-75 period as against a value of 2.6 in 1966.

The trade deficit increased significantly during the 1973-75 period. Imports rose at an average of 28.5 per cent per annum and there was a trade deficit/GDP ratio of about 48 per cent in 1975 - this de spite a rapid increase of commodity exports from JD 12 million in 1973 to JD 51 million in 1975. A large increase in capital transfers and in net factor income from abroad was sufficient to offset the trade deficit during this period. The Government remained dependent on foreign assistance and obtained loans for financing almost 50 per cent of its expenditure during this period. The major sources of the Government domestic revenue were indirect taxes, income from public property and investments. Plan implementation proved a difficult task. There were undue gaps between project authorization and implementation.[9] Many plan targets were not reached - particularly the employment target of creating 70,000 new jobs. Nevertheless the Three Year Plan played an important part in rejuvenating the economy and giving a sense of direction and purpose to the public sector involvement in the development process.[10]

The Jordanian economy today

In Table 1 the main structural characteristics of the Jordanian economy are described. Statistics are given for the latest year for which information is available at UNIDO Headquarters. The following salient features of Jordan's economic structure are to be noted.

1. Jordan may be classified as "a small country with modest resources".[11] It has a population just exceeding 2 million.[12] The population is concentrated along the river Jordan in an area comprising only 5.1 per cent of Jordan's total land mass. The population is highly urbanized with over two thirds living in towns. Over 60 per cent of the total labour force are in the service sector. The public sector employs over 45 per cent of the labour force.[13] Agriculture and manufacturing are the other two major sources of employment. Unemployment rates are low - there is the attraction of the high wage oil economies which particularly since 1967 has induced a large flow of immigrants. There are signs that the level of immigration is likely to decline significantly,[14] and although this may be help as far as shortages of skilled workmen are concerned, it is bound to have serious consequences for the balance of payments - foreign remittances from overseas workers have been high. Moreover the low unemployment rate may be something of a statistical illusion for the high rate of rural emigration to the towns indicates that there is considerable underemployment within the rural sector.

2. The economy has been expanding - but expanding erratically. The trend growth rate of real GDP as estimated by UNIDO has been about 5 per cent over the period 1973-76 - however, there have been very wide fluctuations in GDP growth. In 1973-74 it recorded a growth of 7.4 per cent, but in 1974-75 the growth of real GDP was only 2.9 per cent. The Five Year Plan aims at a 12 per cent GDP growth rate which is two and a half times greater than the growth realized over the period 1973-75. The World Bank estimates that an annual growth rate in the region of 8 per cent may not by beyond the economic capacity of Jordan.[15] This acceleration is crucially dependent on maintaining a high level of gross

Table 1. Structural Characteristics of the Jordanian Economy

Category	Value	Latest year for which information is available at UNIDO
1. Population	2.018 million	1976
1a. of which urban	67.6%	1976
2. Total labour force	390,000	1979
2a. Rate of unemployment	2.1%	
3a. Proportion of labour force in agriculture	16.3%	1976
3b. Proportion of labour force in mining	0.73%	1976
3c. Proportion of labour force in manufacturing	8.80%	1976
3d. Proportion of labour force in construction	10.26%	1976
3e. Proportion of labour force in services (personal and government)	36.67%	1976
3f. Proportion of labour force in trade	17.14%	1976
3g. " " " " " transport and communication	8.31%	1976
4. GNP in constant 1970 prices	325 m. JD	1976
5 GDP " " " "	254.89 m. JD	1976
5a. Private fixed capital formation as % of GDP	17.93%	1976
5b Public fixed capital formation as % of GDP	14.12%	1976
5c. Import coefficient	84.74%	1976
5d. Export coefficient	24.86%	1976
5e. Agricultural value as % of GDP	13.10%	1976
5f. Industrial " " " " "	27.7 %	1976
5g. Manufacturing " " " " "	20.2 %	1976
5h Construction " " " " "	6.2 %	1976

Table 1 (continued)

Category	Value	Year
5i. Trade value as % of GDP	17.6 %	1976
5j. Transport " " " " "	9.4 %	1976
5k. Other sectors value as % of GDP	27.6 %	1976
6a. Rate of growth of GDP	4.9 %	1973-76
6b. " " " " agricul value	4.3 %	"
6c. " " " " industrial "	31.8 %	"
6d. " " " " manufacturing value	31.8 %	"
6e. " " " " construct. "	0.8 %	"
6f. " " " " trade "	1.1 %	"
6g. " " " " transport "	10.8 %	"
6h. " " " " other sectors "	4.8 %	"
Import Sources		
7a. West Europe's share of total imports	48.45%	1975
7b. North America's " " " "	13.32%	"
7c. Japan's " " " "	10.00%	"
7d. Arab countries " " " "	8.53%	"
Export destinations		
8a. Arab countries'share of total exports	50.17%	1975
8b. West Europe's " " " "	11.57%	"
8c. East Europe's " " " "	19.23%	"
8d. Semi-industrial Asia's	5.51%	"
Composition of Exports		
9a. Phosphates share in total exports	40.07%	"
9b. Manufactured goods share in total exports	8.35%	"
9c. Misc " " " " " "	3.26%	"
9d. Fruits and veg. " " " " "	20.87%	"
Composition of imports		
10a. Machinery and trans. equip. as share of Σ imports	31.63%	1975
10b. Manufactured goods as share of Σ imp.	19.16%	
10c. Food and live animals " " " "	21.11%	
10d. Crude oil " " " "	9.74%	

Table 1 (continued)

Category	Value	Year
Terms of Trade (1969 = 100)		
11a. Net Barter (Commodity) terms of trade	105.54	1974
11b. Income terms of trade	122.1	"
12. Ratio of expenditure on consumption and gross domestic capital formation to GNP (at market prices)	127.4	1975-76
13. Foreign borrowing as % of total financing requirements of central Govt. budget	85%	1976
14. Debt-service payments as % of total export earnings	5%	1975
Central Government Budget		
15a. Receipts from indirect taxes as % of total government revenue	45.6%	1976
15b. Receipts from government property etc. as % of total government revenue	42.89%	1976
15c. Total foreign receipts as % of total government budgetary receipts	57.37%	1976
16. Money supply	218.5 m. JD	1975
17. Rate of growth of money supply	28 %	1974-1975
18. Cost of living index (for all groups in Aman. 1967 = 100)	220.9	1976

Sources: National Planning Council Five Year Plan for Economic and Social Development, Aman, 1976.

Warif Azar. Long Term Prospects of Industrial Development in Jordan, UNIDO/ICIS 37, 16-8-1977.

IBRD. Special Economic Report. Jordan Review of the Five Year Plan 1976-1980, Report No. 1144 Jo., 1976.

Azar: The Economic Realities Jordan 1976-1971, Royal Scientific Society, Aman, 1977.

capital formation. As Table 1 shows, gross capital formation (GKF) has been in the order of 18 per cent of GDP for the private sector and 14 per cent for the public sector - an overall GFK/GDP ratio of 32 per cent, which is in line with the Plan's estimates of the required GKF/GDP ratio for the period 1976-1980. The essentially market oriented strategy of the Plan is given by the fact that the private sector investment which constitutes roughly 35 per cent of total planned invest-

ment is to be concentrated in the rapidly growing sectors of the economy.

3. Table 1 indicates that the industrial sector (mining, manufacturing and construction) has been the most dynamic sector of the Jordanian economy. It averaged a trend growth rate of almost 32 per cent per annum over the period 1973-1975. The industrial sector accounts now for 28 per cent of the GDP and employs more than 20 per cent of the labour force - manufacturing accounts for 20 per cent of GDP and employs 10 of the total labour force. As against this agriculture produces roughly 13 per cent of the GDP and employed about 16 per cent of the labour force. The rate of growth of agricultural production for the period 1973-1975 was of the order of 4 per cent per annum - a considerable improvement over the performance over the previous 5 years. Increased agricultural production is vital for the success of the Five Year Plan 1976-1980, which aims to strengthen Jordan's agricultural base by large investment in irrigation projects. Of the total public sector investment during 1976-1980, 28.63 is earmarked for agricultural, irrigation and water resources development projects. As against this, public sector investment in manufacturing is virtually non existent (less than 0.08 per cent over the whole Plan period).

4. It is evident from Table 1 that the Jordanian economy may be described as an open economy heavily dependent on the foreign trade sector. The import co-efficient is as large as 84.75 per cent. There is a huge deficit on visible trade which is financed mainly through borrowing and worker remittances. One measure of external sector dependence is the ratio of expenditure on consumption and gross domestic capital formation to GNP. [16] The value of this ratio was 127.4 for 1975-1976. Wasi Azar has shown that this ratio had declined substantially during the 1962-1966 period but in the aftermath of 1967 and 1973 conflicts Jordanian dependence on the external sector has once again increased.[17]

5. The character of Jordan's foreign sector orientation is demonstrated first of all by the structure of her exports and imports. Jordan's exports consisted of phosphates (which contributed 40 per cent of total export earnings), fruits and vegetables (whose contribution was 21 per cent) and manufactures (11.6 per cent, of which exports of cement accounted for a large share). [18] Imports consisted mainly of

machinery and transport equipment (31.6 per cent of total import expenditure), food (21per cent) and materials based manufactures, (19 per cent). From 1974 a shift in Jordan's import structure is clearly discernable. There is a persistent increase of capital goods in total imports. Similarly there is a corresponding increase in manufactures share of Jordanian exports.

Table 1 shows that Western Europe and North America are the major sources of Jordanian imports - together they account for over 60 per cent of total Jordanian imports. However, they are by not means so important as markets for Jordanian exports - West Europa purchases 12 per cent of total Jordanian exports and North America accounts for less than 0.9 per cent. The major markets for Jordanian exports are the Arab countries of the Middle East and North Africa which together purchase more than half of her exports and East Europe whose share is about 20 per cent. Jordan's penetration of the Arab market is a considerable achievement and illustrates scope for fruitful joint ventures in promoting regional co-operation and integration. Jordan also does a brisk-trade with the "Semi-industrialized" nations of South and South East Asia and sooner or later there will be opportunities for substituting high cost capital intensive investment good imports from the West with cheaper and perhaps technologically more appropriate capital equipment from the Asian industrializing countries.

6. The worsening trade balance does not indicate any general adverse movements in Jordan's terms of trade. Phosphate prices have been strong in the middle 1970s and despite the rapid rise in the price of manufactured imports and crude oil,[19] the net barter and the income terms of trade showed some improvement in 1974. Like most other indices of Jordan's economic structure, movements in the terms of trade indices also show wide fluctuations from year to year.[20]

7. As mentioned earlier the main sources of financing the trade deficit are foreign borrowings and grants on the one hand and workers' remittances on the other. The two items have generally been large enough to ensure that the overall balance of payments is surplus and international reserves are maintained at a reasonably high level.

This has generally ensured the strength of the Jordanian Dinar which remains a relatively strong regional currency.[21] Since the early 1970s inflow of foreign capital has been of the order of about $ 25 million (in the period 1971-74). In 1975 private foreign investment of over $ 10 million was made in the Housing Bank, the Jordan Ceramics Company and in the textile industry.[22] The Jordanian Government encourages foreign investment and the Five Year Plan estimates that foreign investment inflows of about JD 67 million will be required for the private sector during 1976-80.[23] Foreign investment is likely to be concentrated in mining and manufacturing.

8. Budget support grants and foreign loans are important constituents of total fiscal revenues. For 1976 foreign borrowing and receipts represented 52 per cent of total government revenue and the former constituted 80 per cent of the finances required for meeting the overall budgetary deficit. Moreover, there has been a significant increase in the Government's tendency to resort to foreign borrowing for financing the budget deficit. Thus the average ratio of foreign borrowing to deficit for the years 1973 and 1974 was 1.4 but for 1975 and 1976 this ratio has risen to 4.75.[24] Non-bank domestic borrowing also represents an important source for financing the budgetary deficit. Domestic revenue receipts have been rising, and although due to an expanded corporate tax base the share of direct taxes in total domestic revenue has risen, the bulk of revenue receipts are derived from indirect taxes and from earnings on government property. Government expenditure has risen faster than revenue due to inflationary pressure on salaries of government employees[25] and the increased costs associated with infrastructure investment. Current expenditure as a ratio of GDP has remained stable at a level of about 38 per cent over the period 1973-1975.

9. Since 1973 inflationary pressure has been strong. The Aman cost of living index has been rising at a rate of about 13.5 per cent per annum in this period. The main factor behind this increase seems to be the rise in the price of food; export demand for which has been expanding. Money supply (i.e. currency in circulation and demand deposits) increased from JD 139.25 million to JD 314.79 million over the period 1973-1977 - an annual average growth of over 31 per cent but there is

evidence that since 1975 this expansion has been of the order of about 22 per cent.[26] Economists stressed "the domination of the (Jordanian) monetary system by foreign assets".[27] Accumulation of foreign assets has provided the most important impetus for commercial bank credit expansion. Since 1973 the Government has tried to limit credit expansion and has exercised selective credit control. These measures have not had an adequate impact and private sector credit (especially to the construction industry and to trading enterprises) has tended to expand rapidly.[28]

Three outstanding features of the Jordanian economy need special attention: a) its resilience and capacity to absorb severe shocks and disruption; b) the wide fluctuations that characterize the level of economic activity and c) the openness of the economy and its responsiveness to changes in its international trade and investment environment. This openness constitutes a challenge as well as an opportunity - as has been demonstrated in so many other cases where small, resource poor nations have consciously used the external sector as a means for compensating for their natural disadvantages. The Government of Jordan seems conscious of the need on the one hand to reduce its dependence on foreign assistance - this is an important objective of the Five Year Plan[29] - and on the other to promote regional co-operation and take due advantage of international trade and investment opportunities. Attainment of these objectives will determine the extent to which the resiliance of the economy can be strengthened and oscilations in the level of economic activity be reduced. Assessment of sectoral policies and performance must be based on the basis of the contribution that the sector concerned can (potentially) make towards increasing the resilience of the Jordanian economy and reducing its vulnerability to unforeseen and uncontrolable developments within its international environment.[30]

Chapter II

STRUCTURAL CHANGE IN THE INDUSTRIAL SECTOR

Rate and form of industrialization

We have seen in the previous section that the rate of industrial growth in Jordan in the period 1949-1961 had been about 13 per cent. 31/ By 1960 it accounted for 12.7 per cent of the gross domestic product. As Table 2 shows by 1975 this share had risen to over 23 per cent - the share of manufacturing rising to 15.3 per cent of GDP. Industry's share in total employment had risen at a much slower rate from 16.3 per cent in 1960 to 19.8 per cent in 1976. The share of manufacturing in total employment increased from 6.3 per cent in 1960 to 8.8 per cent by 1976 - thus the increase in output was not matched by increase in employment levels and this indicates that the industrial (and manufacturing) technology employed was capital intensive and if the flow of skilled and unskilled workers from Jordan was to significantly reduced, the manufacturing sector would have considerable difficulty in absorbing them.

Table 2. Share of the Industrial Sector in GDP, 1960-1975

(at 1970 prices)

Year	Mining and Manufacturing	Construction	Industry (cols.1+2)
1960	7.7	5.0	12.7
1961	8.0	4.0	12.0
1962	7.4	5.7	13.1
1963	9.0	5.2	14.2
1964	9.3	4.0	13.3
1965	10.7	5.2	15.9
1966	11.5	6.2	17.7
1967	9.9	4.9	14.8
1968	11.9	6.1	18.0
1969	11.6	5.3	16.9
1970	11.2	3.9	15.1
1971	10.7	4.4	15.1
1972	10.9	6.2	17.1
1973	11.8	8.1	19.9
1974	15.4	6.8	22.2
1975	15.8	7.5	23.3

Source: Wasif Azar. Long Term Prospects of Industrial Development in Jordan. UNIDO/ICIS. 37. Vienna 1977, p. 14.

Moreover, Table 3 shows that the rate of growth of manufacturing output has been highly uneven. It has ranged from 65.94 per cent in 1974 to -28.8 per cent in 1970 - there have been negative growth rates in 1962, 1967, 1970 and 1976. Excluding the two abnormal years 1970 and 1974 [32], the rate of growth in manufacturing value added since 1969 has been about 4.7 per cent per annum; this is appreciably lower than the growth rates during the early 1960s, but then the industrial base was a relatively small one and high growth rates were almost inevitable. However, there is little doubt that in recent years expansion of the manufacturing sector has been particularly affected by the lags between project formulation and implementation.

Table 3. Rate of Growth of Manufacturing and Mining Value Added in Jordan, 1960-1976

Year	Value Added [a]	Rate of Growth
1960	- 9.30	
1961	11.80	26.8
1962	10.60	-10.7
1963	14.10	33.0
1964	16.30	15.6
1965	20.00	22.6
1966	21.30	6.5
1967	19.70	- 7.5
1968	22.50	14.2
1969	23.90	6.2
1970	17.00	-28.8
1971	17.50	2.9
1972	18.20	4.0
1973	20.00	9.8
1974	33.19	65.94
1975	35.00	5.4
1976	34.90	-0.25

Notes: a/ Value added in JD million at 1970 market prices

Source: Azar: Long Term Prospects of Industrial Development in Jordan. UNIDO/ICIS.37, 1977. Statistical Annex Table 10.

The Five Year Plan has placed great emphasis on the rapid growth of the mining and manufacturing sector. This sector takes up the largest share of the total planned investment within the Plan period and is expected to show the highest growth rate - targeted at 26 per cent per annum.[33] According to a recent Financial Times Survey, "progress (in the manufacturing and mining sector) to date has been positive but lagging behind schedule in the large Government run schemes while running far ahead of expectations in the private sector".[34] Jordan is attempting to combine large scale industrial development, (mainly the responsibility of the public sector but increasingly undertaken with the help of multi-national corporations who provide know-how and technology transfer) [35] and the development of private sector small scale projects geared to serving to needs of the rapidly expanding Middle Eastern markets. Many new projects have been initiated and the established units are undergoing substantial expansion. It is expected that "the country's manufacturing and mining companies (will) show a large rise in their contribution to GDP as well as (make) a significant dent in the chronic trade deficit in the early 1980s".[36] This implies that targets set for the industrial sector in the Five Year Plan are not likely to be realized by the end of the Plan period and there is scope for investigating the causes of this underfulfilment - whether the targets were in fact too ambitious to begin with or whether there has an undue lag in implementation. It would appear that a combination of both these factors - as well as developments in the international environment beyond the control of Jordan[37] - have accounted for the relatively modest progress of the industrial sector. It is suggested that particular attention should be paid to the development of industrial management capabilities and that joint ventures with multi-national companies may prove useful in this context.[38]

The overall importance of the industrial sector within the Jordanian economy is evident from its share of total planned investment. The Government's industrial strategy implies the rapid development of a heavy industrial complex which in general employs a labour saving, capital intensive technology and which is oriented towards regional export markets. The per-

formance of the industrial sector in terms of its contribution towards the achievements of the Plan's stated objectives should constitute an important criterion for determining the appropriateness of this strategy.

Structure of industry

Table 4 describes the industrial structure of Jordan. It will be seen that the industries vary enormously in terms of their contribution to industrial value added.

Table 4. Value Added in Jordanian Industry (current prices JD 000)

Type of Industry	1960 V.A.	1960 as % of	1970 V.A.	1970 as % of	1976 V.A.	1976 as % of
Mining	977	14.23	3332	22.23	11000	19.39
Food	959	13.97	1858	12.38	6700	11.81
Beverages	189	2.75	465	3.10	830	1.46
Tobacco	332	4.83	635	4.23	2400	4.23
Textile	207	3.01	377	2.51	3700	6.52
Apparel	880	12.82	128	0.85	2600	4.58
Leather	22	0.32	320	2.13	1900	3.34
Footwear	-	-	129	0.86	300	0.52
Furniture	548	7.98	695	4.63	1500	2.64
Paper	23	0.33	22	0.14	500	0.88
Publishing	132	1.92	350	2.33	800	1.41
Chemicals	80	1.10	775	5.17	2900	5.11
Petro-refining	0	-	1860	12.41	8000	15.15
Rubber prod.	89	1.29	39	0.26	-	-
Non-metallic minerals	1552	22.61	1450	9.67	3900	6.87
Basic metals	355	5.17	1650	11.01	6700	11.81
Machinery	47	0.68	6	0.04	-	-
Electrical	30	0.43	244	1.62	900	1.58
Transport	173	2.52	453	3.02	1000	1.76
Other	267	3.89	189	1.26	500	0.88
Total	6862		14983		56730	

Source: Azar. Op. cit. Statistical Appendix Table 11.

Table 5 gives the mean and standard deviation of value added produced by the industries in the three years for which data has been presented in the previous table. For each of the three years it will be

Table 5. Mean and Standard Deviation of Value Added Produced by Jordanian Industries

1960, 1970, 1976 CJD'000 current prices

	1960	1970	1976
Mean	433.8	748.8	2836.5
Std. deviation	496.2	859.2	3073.1
Std deo/mean	1.14	1.14	1.08

Source: Table 4

seen that the standard deviation is larger than the mean and the dispersion is quite wide - there is a marginal tendency towards a reduction of this dispersion between the years 1970 and 1976, but the latter dispersion is still quite wide.

Despite the relative stability of the range of dispersion of industries in terms of their contribution to value added their ranks within the distribution have changed significantly. Thus in 1960 the five leading industries in Jordan were: 1) Non-metallic minerals (22.6 per cent of total value added); 2) Mining (14.2 per cent); 3) Food (13.9 per cent); 4) Apparel (12.8 per cent); and 5) Furniture (7.9 per cent). In 1976 the leading industries were: 1) Mining (19.4 per cent); 2) Petrol refining (15.1 per cent); 3) Basic Metal and Food (each producing 11.8 per cent of total value added) and 5) Non-metallic minerals (6.8 per cent) - the apparel industry now ranked 8th. and the furniture industry ranked 12th. in the industrial "league table". In 1960 the top 5 industries together produced 71.6 per cent of the total value generated in the mining and manufacturing sector. In 1976 this ratio had gone down to 64.9 per cent - another indication of some reduction in concentration of value added within the industrial sector in 1976.

The share of consumer goods industries [39] in total value added declined from 46 per cent in 1960 to just over 35 per cent in 1976. To some extent this reflects the Government's choice of encouraging the development of large capital intensive industrial complexes. Today Jordanian manufacturing industry can be divided into three distinct sub-sectors. Firstly there are the export oriented mineral based industries producing potash and fertilizer. The Five Year Plan intends to expand firms in this category; $430 million have been invested in a new potash project on the banks of the Dead Sea. It is now expected to come on stream in mid 1981 [40] and its entire output is earmarked for export. Also earmarked for export is the output of the new fertilizer plant being built by the Jordan Fertilizer Industry Company just south of the port of Agaba. Exports also constitute a major proportion of the sale of the Jordan Phosphate Mines Company which is being expanded to produce 3 million tons of fertilizer a year by the beginning of 1980.

The second segment of the large scale manufacturing sector produces petroleum products and cement. Expansion is planned for the two big companies - the refinery at Zarqa and the cement plant at Fuebels - operating within this sector. Unlike the fertilizer plants, the petroleum and cement industry is entirely domestic market oriented.

The third sector of Jordanian manufacturing consists of small and medium scale enterprises which aim at both import substitution and export expansion. The development of Jordan's first industrial estate just south of Amman is likely to be an important source of encouragement for the medium sized plants which are under increasing Government pressure to modernize production equipment and rationalize their organizational structure. This had led to a decline in the number of small firms operating in this sector.

In general the emphasis seems to be on promoting industries with substantial export potential. The mineral based manufacturing sector is clearly geared to the export market, the expansion of oil refining capacity is also being undertaken with the hope that some of the increased output will be exported. Finally even though the medium scale manufacturing enterprises are likely in the early stages to be import substituting in

nature, it is expected that in the not too distant future they will acquire a regional export orientation. Such medium scale enterprises are being encouraged in the textile, foodstuffs, bromine, magnesium, detergents, clay products, glass, cement sacks, and building material sector. Expansion and modernization of existing projects is planned in the tanning, textiles, shoes, plastics, food, marble, paper, pharmaceuticals, iron and cigarettes industries.[41] Considerable import substitution capacity exists in most of these sectors and expansion of domestic demand for their products is also to be expected, but in the medium to long run they will have to attempt to penetrate export markets if they are to enjoy economies of scale . Hence the Government is increasingly concerned with economic efficiency and industrial incentives are regularly reviewed to eliminate excessive protection. This concern with efficiency seems to be particularly pronounced with regard to the private sector where rationalization of production processes are often urged on efficiency grounds. The overall emphasis in the Five Year Plan seems to be with a consolidation and rationalization of Jordan's existing industrial capacity and its utilization. Substantial diversification of the industrial sector - development of a capital goods industry for example - does not seem to be a major concern. This may not be inappropriate in view of the narrow range of natural resource potential that Jordan possesses, but specialization in mineral based industries and orientation of the industrial sector towards export markets requires a careful harmonization of Jordan's industrial policy with the economic policies of Jordan's main trading partners. Since Jordan is consciously aiming at orienting its industrial expansion towards the regional market, economic co-operation and harmonization of policies with the Arab countries is of considerable importance. Jordan has been conscious of this and since 1974 important progress in this field was made with the establishment of economic co-operation programmes with Syria. The Syrian-Iraqui agreement on increased economic integration opens up new possibilities for Jordan to co-ordinate her industrial development programme with that of her neighbours and to take advantage of an expanded international market.

The structure of the mining and manufacturing sector may also be investigated in terms of the relationship of the structure of industrial costs to output and employment. Such an analysis is presented in Table 6.[42]

Table 6. Average of Input Co-efficients in Jordanian Industry, 1972

	A	B	C	D	E	F	G
Mining	0.443	0.011	1.628	1.304	1.576	0.045	1.088
Food	0.930	3.690	1.694	0.213	529	0.534	0.993
Beverages	0.516	0.465	2.798	1.681	1.278	0.710	1.007
Tobacco	0.782	0.584	0.281	0.098	2,558	0.325	0.898
Textiles	0.551	1.120	0.746	0.292	858	0.727	0.941
Apparel	0.788	0.357	0.527	0.205	579	0.227	0.981
Leather	0.752	1.414	1.202	0.435	769	0.861	0.976
Footwear	0.705	0.148	0.417	0.203	903	0.141	0.927
Furniture	0.800	0.057	0.552	0.232	513	0.042	0.971
Paper	0.876	2.295	11.969	3.211	452	0.863	0.967
Publishing	0.834	0.274	1.824	0.764	394	0.200	1.192
Chemicals	0.641	0.748	1.374	0.638	561	0.642	0.989
Petrol refining	0.742	1.378	12.747	1.022	2.054	0.816	1.086
Rubber products	0.791	0.093	3.125	1.098	581	0.050	1.00
Non-metallic minerals	0.802	0.061	2.136	1.152	2.459	0.087	1.072
Basic metals	0.513	1.486	1.715	0.629	3.549	0.861	1.352
Machinery	0.723	0.381	0.674	0.304	660	0.298	1.019
Electrical	0.731	0.703	1.212	0.540	775	0.576	0.988
Transport	0.822	0.125	0.843	0.435	470	0.129	1.338
Other	0.800	0.333	0.166	0.066	300	0.222	1.000
	0.727	0.786	1.781	0.726	1.015	0.415	1.040
Std. Dev.	0.130	0.917	2.528	0.736	872	0.283	0.121
Std dev/N Dn	0.178	1.166	1.419	1.013	0.859	0.684	0.117

Notes: A = Industrial Cost/Output. B = Raw Material Imports/Value Added.
C = Investment (Book Value)/Value Added. D = Investment/Gross Output.
E = Value Added/Employment. F = Imported Raw Material/Total Raw Materi
G = Net Revenue/Output.

Source: Miner and Associates: Industrial Development Survey of Jordan for UNIDO, Chicago 1973. Vol. 1, p. 1-79.

The raw data on the basis of which Table 6 has been constructed were collected for UNIDO by a private firm. The data relates to the East Bank only and is for the year 1972. The UNIDO survey covered all industrial (mining and manufacturing establishments) having five or more employees and also involved a technical evaluation of individual establishments representing 80 per cent of industrial sales value in 1972.[43] The length of time that has elapsed since the survey was conducted is considerable; but given the fact that no fundamental reorganization of industry has as yet borne fruit the basic structural relationships indicated in this Survey[44] may still be considered representative and characteristic parameters describing the production processes of the Jordanian industrial sector.

A detailed correlation study of the information in Table 6 [45] is undertaken in the next section.[46] Some salient features may be noted here.

1. The ratio of imported raw material to total raw material is 0.415 - a not particularly moderate figure if we consider the experience of the developing countries as a whole [47] - this reflects the relative resource poverty of Jordan. Most industries have import content ratios of this magnitude. The standard deviation of this indicator (relative to its mean) is quite low. The major exceptions are paper, petroleum refining and basic metals on the one hand (with raw material import content of over 80 per cent) and mining, non-metallic minerals and furniture (with raw material import content of less than 10 per cent) on the other.[48] The Government intention to emphasize the development of phosphate mining and phosphate based industries (in particular fertilizer) are no doubt related to an appreciation of the fact that it has a very low raw material import content. This extent to which this is offset by high capital and skilled labour imports by these industries (in relation to industries with high raw material import content) cannot be determined on the basis of data available, but perhaps it is relevant to note that both the mining and the non-metallic mineral based industries have higher investment/output ratios

than the petroleum refining and the basic metal industries (which have considerable higher raw material import content). Thus if capital imports are assumed to constitute a roughly similar proportion of total investment in these two groups of industries, then capital imports per unit of output are perhaps higher in the domestic resource based industries. [49]

2. The ratio of value added to employment tends to vary considerable - the ratio standard deviation/mean is 0.86. It is highest in the basic metals (3.549), non-metallic minerals, petroleum refining (2.045), tobacco (2.558) and mining industries (1 576) and lowest in other manufacturing [50] (0.30), publishing (0.394), paper (0.452) and the transport equipment (0.47) industries. There is clearly an association between capital intensity (as measured by indicator D) and the Value Added/Employment ratio. However, this relationship does not seem to be particularly strong - some industries with high investment-output ratios and some industrial with low investment-output ratios (tobacco, textiles) have higher value added-labour ratios.

The ratio of value added to total employment may also be calculated for the year 1974 from data given by Azar [51]. These estimates are presented in Table 7. The industries with the highest value added to employment ratios are petroleum refining, leather, mining, tobacco and basic metals - the only difference between this group and that for 1972 is that leather has replaced non-metallic minerals. We also notice that the mean value of the value added/employment ratio in 1974 is according to Azar's figure twice as high as in 1972. If there is some association between capital intensity and value added per unit of labour then this may suggest that capital intensity of Jordanian industry has increased somewhat. [52]

3. In terms of the ratio industrial cost/output we find a fairly narrow range of cases. The standard deviation is only 17.8 per cent of the mean. On an average industrial costs average about 73 per cent of the value of gross output. The ratio is highest for food (93 per cent), paper (87 per cent), publishing (83 per cent), transport (82 per cent) and furniture (80 per cent). It is lowest for mining (44 per cent),

Table 7. Value Added and Employment in Jordanian Industry, 1974

Industry	Value added[a/]	Employment[b/]	Value added/ Employment
Mining	11000	2405	4,573
Food	6700	3479	1,928
Beverage	830	417	1,990
Tobacco	2400	540	4,444
Textile	3700	1516	2,440
Apparel	2600	4414	589
Leather	1500	285	5,263
Footwear	300	500	592
Furniture	1500	2032	738
Paper	500	341	1,460
Publishing	800	768	1,041
Chemicals	2900	897	3,232
Petrol ref.	8800	1363	6,456
Rubber	-	30	-
Non-metallic minerals	3900	2136	1,825
Basic metals	6700	1583	4,232
Machinery	-	-	-
Electrical	900	601	1,497
Transport	1000	1466	682
Other	500	734	681
Mean			2,425
Std. deviation			1,832

Notes: a/ Number of workers. b/ JD 000 in current prices.

Source: Azar: Long-term Prospects of Industrial Development in Jordan. UNIDO/ICIS. 78, July 1975.

basic metals (51 per cent), beverages (52 per cent), textiles (55 per cent) and chemicals (62 per cent). In the inter-industrial correlation study in the next section, an attempt is made to relate variations in the structure of the costs to changes in labour productivity, capital intensity and import content ratios, etc.

In general the Jordanian industrial sector may be said to consist of large-scale capital intensive projects with higher labour productivities on the one hand and medium-sized and small-sized enterprises employing a labour intensive technology. A judicious balance between the development of these two type of industries and an attempt at strengthening inter-sectoral linkages within the economy must constitute a most important element of Jordan's industrialization strategy. The Government is conscious of the fact that such linkages are at present very weak. Thus the Five Year Plan notes "there is very little interaction between the mining and industrial activities on the one hand and between these two activities and the other economic sectors such as agriculture, construction, electricity and water on the other".[53/] The inter-industrial matrix drawn up by Miner and Associates [54/] shows the limited extent of inter-industrial interaction. The table describes the effects of an additional 1000 units of final demand for each industry in terms of total input requirements of the output of all industries. Thus the implication of increasing final demand by 1000 units in quarrying and stone crushing are to increase output of the quarrying sector by JD 1039, in food manufacturing by JD 9, in industrial chemicals by JD 63, in other chemicals products industry by JD 10, in the petroleum refinery industry JD 277, in electricity by JD 29 and in water worker by JD 7. The many empty spaces and the modest entries in most boxes indicate the paucity of inter-industrial linkages in Jordan. An expansion in most of these industries is likely to influence the level of economic activity in only a few other sectors. Most significantly it is to be noted that there is hardly any relationship between the large industries and the relatively labour intensive medium-sized and small industries of the private sector.

Table 8 lists the leading industries expansion of which are likely to have the most pronounced impact on output, value added, payments made to labour, exports and imports generated within the industrial sector. It tells us for example that if final demand of the textile industry was to expand by 1000 units total output within the industrial sector would have to expand by JD 3233. If another 1000 units of final demand of the

Table 8. Effects of Additional 1000 units of Final Demand on Output Value Added, Labour Payments, Exports and Imports of Jordanian Industries

(JD current prices 1972)

Name of Industry	Impact on Output	Name of Industry	Impact on Value Added
Textiles	3233	Petrol refinery	1765
Paper	3057	Transport equipment	1203
Plastics	2731	Basic metals	1189
Publishing	2686	Machinery	1132
Leather products	2681	Footwear	1128
Industrial Chemicals	2646	Wood products	1106
Basic iron and steel	2634	Electric machinery	1095
Apparel	2592	Apparel	1045
Glass	2556	Quarrying	1026
Textile manufacture	2539	Furniture	1046

Name of Industry	Impact on Labour Payments	Name of Industry	Impact on Exports
Glass	856	Quarrying	784
Transport equipment	655	Other mineral products	724
Wood products	645	Electric machinery	690
Basic metals	591	Textile manufacture	599
Printing	554	Paper	524
Paper	471	Apparel	413
Furniture	458	Publishing	280
Footwear	426	Glass	258
Textile	408	Other manufactures	258
Petroleum refinery	399	Other chemicals	233

Name of Industry	Impact on Imports
Petroleum refinery	1766
Paper	1675
Textiles	1666
Basic iron and steel	1259
Food manufacturing	1085
Industrial chemicals	1080
Textile manuf.	1006
Leather products	1006
Publishing	975
Other chemical products	955

Source: Industrial Development of Jordan for UNIDO, Table 29.

petroleum refiner were to be satisfied this would require the generation of JD 1765 of value added, JD 399 of labour payments and JD 1766 of imports for the industrial sector as a whole.

The five sections of Table 8 list the effects of 1000 units of additional demand of different Jordanian industries. One is immediately struck by the dissimilarity of the list of industries appearing in the different sections of this table. Thus none of the 10 industries expansion of which have the most significant impact on the generation of industrial output appear among the list of the leading ten industries expansion of which would have the greatest impact on industrial value added, 4 appear in the list of industries with the maximum impact on pauments to labour and 5 appear in the list of industries with maximum impact on exports - also to be noted is the relatively weak association between industries expansion of which have major impact on value added as a whole on the one hand and on labour payments on the other.

In general it would appear that opting for a strategy of capital intensive resource based industrial development is likely to generate high levels of value added and exports. It is not likely to influence labour payments, employment levels and industrial output levels very significantly. Expansion of petroleum refining and cement may have a significant impact on value added and export levels but are again unlikely to generate significant levels of employment. The labour intensive medium- and small-scale industries on the other hand are to be found scattered on all sections of Table 8. Some, such as textiles, leather and apparel show a large output impact expansion of others such as footwear, apparel, wood products and furniture would have a large impact on value added and payments to labour (and hence on employment). Their contribution towards exports are likely to be limited and some of them (textiles manufactures and leather products) may generate high demands for imports.

The central point which seems to emerge from this analysis of inter-industrial linkages is that Government must combine expansion of different parts of the industrial sector in a complementary manner if it is to achieve high rates of growth of output, productivity and employ-

ment on the one hand and a wider dispersion of the benefits of industrial development within society on the other. Government must concern itself with developing linkages between the industrial sector and the other sectors of the economy - in particular agriculture. Table 8 provides no information about intersectoral linkages within the whole Jordanian economy but it is known that the strongest linkages between agriculture and industry in Jordan are in relation to the food processing industry; however, even their imported raw material/total raw material ratio is 53.4 per cent (Table 6). With increasing agricultural productivity this ratio should fall considerably. But for agricultural productivity to rise it is essential: (i) to divert an increasing amount of Jordan's fertilizer output to the agriculture sector; (ii) to explore the possibility of the domestic production of agricultural machinery and implements, and (iii) to develop a framework for rural industrial development which allows the village people and the Beduin to relate to and participate in Jordan's industrialization.

Employment and regional distribution

The impact of industrial growth on employment is a crucial indicator of the extent to which industrialization is being institutionalized within the economy. If rapid industrial growth takes place over a long period of time but the vast majority of the work force remain outside the industrial sector a structural imbalance is introduced into the development pattern and a bifurcation takes place between a rapidly expanding urban sector and relatively stagnant rural hinterland. The growth of the service sector (including commerce and trade) can to some extent bridge the gap between agriculture and industry, but its ability to widely diffuse the benefits from industrial growth are strictly limited. The expansion of industrial employment is a process of building backward and forward sectoral linkages within the economy and of eroding economic dualism. 55/ A comprehensive industrialization strategy must give due weight to the objective of expanding industrial employment within the economy.

Table 9 gives the proportion of labour force employed in mining and manufacturing from 1960 to 1976.

Table 9. Proportion of Labour Force in Mining and Manufacturing 1960-1976

(percentages)

Year	Mining	Manufacturing
1960	0.54	6.30
1966	0.92	7.26
1971	0.86	8.11
1972	0.56	8.45
1973	0.54	8.46
1974	0.79	8.73
1975	0.76	8.71
1976	0.73	8.80

Source: Azar: Long-term Industrial Development of Jordan. UNIDO/ICIS.78, Statistical Annex, Table 4.

The mining and manufacturing sector increased in share of GDP (at factor cost) from about 7 per cent to about 20 per cent over the period 1960-1976. [56] Over the same period its share of total employment increased from 6.84 per cent to 9.53 per cent. The share of the mining sector in total employment has actually declined over the last 10 years. It was 0.92 per cent in 1966 and is 0.73 per cent in 1976. The rate of growth of manufactures share of total employment was 2.53 per cent per annum over the period 1960-1966. It declined to 2.34 per cent per annum over the period 1967-1976. There is, thus, clear evidence to support the view that investment in the Jordanian mining and manufacturing industry is becoming more capital intensive and expansion of employment is failing to keep pace with expansion of output. The mining and manufacturing sector is regarded as the leading sector of the economy in the Five Year Plan development strategy; if the fruits of the growth of these sectors are to be widely distributed, efforts must be made to ensure that employment expands at a faster rate than can be forecast on the basis of historical trends.

Table 10 describes the distribution of employment among the major branches of the Jordanian mining and manufacturing sector over the period 1968-1974. It shows that the main sources of employment in this sector

Table 10. Distribution of Employment in the Mining and Manufacturing Sector of Jordan, 1968-1974

	1968		1974	
	Number	as % of Total	Number	as % of Total
Mining	3129	15.26	2405	9.42
Food	3235	15.78	3479	13.62
Beverages	260	1.26	417	1.63
Textile	652	3.18	540	2.16
Tobacco	1328	6.48	1516	5.94
Clothing	1505	7.34	4414	17.30
Footwear	827	4.03	506	1.98
Wood	-	-	-	-
Furniture	1891	9.22	2032	7.96
Paper	248	1.21	341	1.33
Publishing	925	4.51	768	3.01
Leather	210	1.02	285	1.11
Rubber	133	0.64	30	0.11
Chemical	364	1.77	897	3.51
Petroleum refin.	958	4.67	1363	5.34
Non-metallic min.	1342	6.54	2136	8.37
Basic metals	1945	9.53	1583	6.20
Machinery	171	-	-	-
Electrical	591	2.88	601	2.35
Transport	655	3.19	1466	5.74
Other	275	1.34	734	2.87
Total	20493		25513	

Source: Azar: Long-term Industrial Prospects of Jordan. UNIDO/ICIS. 76 Statistical Annex, Table 5.

were the food industry (15.73 per cent of total sectoral employment), mining (15.26 per cent), basic metals (9.53 per cent), furniture (9.22 per cent) and clothing (7.34 per cent) in 1968. In 1974 the distribution pattern of employment had changed significantly. The share of the clothing industry in total employment had more than doubled. It now accounted for 17.30 per cent of total employment. The share of the food industry in total employment had fallen to 13.62 per cent, that of mining had fallen to 9.42 per cent. Non-metallic minerals had increased their share of total employment from 6.54 per cent in 1968 to 8.37 per cent in 1974 and the share of basic metals had gone down to 6.2 per cent. The share of the furniture industry had also declined from over 9 per cent in 1968 to just less than 8 per cent in 1974. The share of consumer goods industries taken as a whole had remained fairly stable - the accounted for approximately 40 per cent of total mining and manufacturing employment in both years. The share of the mineral based industries had gone up marginally from about 17 percent to just over 18 per cent, as had the share of petroleum refining. A judicious balance in the relative growth of the different sub-sectors of the Jordanian industry is clearly necessary if adequately growth rates of industrial employment are to be sustained.

Concern about the equitable distribution of the benefits of industrialization is expressed in seeking a balance in the regional distribution of industrial units. Table 11 which gives the geographic distribution of industry in Jordan clearly illustrates the high concentration which exists in the Amman-Zarqa (al Asimah) area. The mineral based industries are of necessity located near the deposits and single establishment industries - and they account for 53 per cent of fixed assets of all firms in the industrial sector, 44 per cent of total sales and 26 per cent of total employment [57] - are by definition regionally concentrated. But even "the local industries are concentrated in the Amman Zarqa area" [58] according to the Five Year Plan which therefore places emphasis on the need to "achieve a better distribution of new industrial sites, (through providing basic infrastructural facilities (and) relocation of existing

Table 11. Geographic Distribution of Jordanian Industry, 1972

(JD 000)

	No. Firms	as per cent of total	Employees	as per cent of total	Wages (JD 000)	Fixed Capital*	as per cent of total	Sales	as per cent of total	Raw materials consume	Sale of Power by Electric Co.'s 000 KWH
Al Asimah	497	84.66	12,370	83.09	4,003	21,443	71.34	27,595	77.72	16,005	112,918
Irbid	65	11.03	966	6.48	489	1,382	4.59	1,145	3.22	564	10,875
Balqa	12	2.03	1,356	9.10	766	6,780	19.09	6,600	18.58	4,031	45
Karak	9	1.52	127	0.85	28	0	0	104	0.29	48	600
Ma'an	6	1.01	68	0.45	18	450	1.26	59	0.16	40	968
Total	586		14,887		5,304	30,055		35,503		20,688	125,606

* Depreciated Value

Source: Miner and Assoc. Industrial Development Survey of Jordan for UNIDO, 1973, p. 80.

and workshops within (new) industrial zones".[59] The development of the potash project, the new plant of the Jordanian Fertilizer Company near the port of Aqaba and the expansion of the Zarqa oil refinery are not likely to reduce the level of geographic concentration. It is important to diversify industry at the regional level so that sectoral crisis (fall in the price of phosphates for example) do not become a serious cause of widespread regional unemployment and recession. Hopefully the industrial estate al Sahab [60] will attract a widely diversified group of small and medium sized industries.

A high level of geographic concentration is (almost inevitably) accompanied by a high level of concentration of industrial output, employment and sales. As Table 12 (compiled from the industrial survey conducted for UNIDO) shows, in the early 1970s "large firms"[61] accounted for only 9 per cent of total establishments in Jordan's industrial sector, but they employed 55 per cent of the industrial labour force, paid 71 per cent of the total industrial wage bill, consumed 76 per cent of the industrial raw material. Their sales accounted for 77 per cent of total sales of this sector and they were responsible for over 80 per cent of industrial exports (their share of industrial imports was significantly lower (49 per cent) indicating the high ratio of raw material imports to total raw materials used by the small and medium sized industries). The large firms owned 87 per cent of the industrial sector's fixed assets and produced 78 per cent of its value added.

Concentration ratios for the different industrial sub-sectors could not be calculated but it is to be noted that "the greatest number of firms are (to be) found in quarrying, food manufacture, textile and wearing apparel, fabricated metal products and printing and publishing whereas the value added is concentrated in the sectors which are dominated by a few large firms".[62] One would assume therefore that employment and sales concentration ratios range widely with low values in the traditional, handicraft industries and with high value in the mineral based industries - some of which consist of only one establishment. An emphasis upon the development of these resource based industrial activities necessarily implies an increase in the level of industrial concentration in Jordan.

Table 12. Concentration of Industrial Activity in Large Firms, 1972

(JD 000)

	Units								
	No. of Firms	No. of Employees	Wages Paid	Raw Mat'ls Consumed	Imports	Sales	Exports	Value Added	Fixed Assets
Census Frame	589	14,887	5,308	20,684	10,405	35,540	5,721	15,915	30,055
Large Firms	55	8,189	3,775	15,727	5,085	27,427	4,639	12,443	26,207
Large Firms Percentage	9.3	55.0	71.1	76.0	49.9	77.2	81.1	78 2	87.2

Source: Miner and Assoc. Industrial Development Survey of Jordan, 1973, p. 76

External trade in industrial products

Table 13 and 14 give a picture of the structure of Jordan's external visible trade. In 1971 exports of fruits and vegetables accounted for 42 per cent of total domestic export earnings, phosphate exports for 25 per cent and exports of manufactured goods for 18.2 per cent. In 1975 fruit and vegetable exports accounted for 25 per cent of total domestic exports, phosphates for 48.8 per cent and manufactures for 10 per cent. The growth of export earnings from phosphates has been exceptionally high, since 1973, due to the increase in its price. Since 1975 export earnings from phosphates have been declining. In 1977 they constituted only 28.7 per cent of total export earnings. Manufactures have not represented a major source of export earnings.[63]

In 1971 Jordan's main imports were food (25 per cent of total import expenditure), machinery and transport equipment (21 per cent), manufactured goods by material - i.e. rubber manufactures, paper and paper board, textile yarn and fabrics - (15.5 per cent) and mineral fuels (6.3 per cent). By 1975 mineral fuels accounted for 10.6 per cent of import expenditure, manufactured goods by materials for 19 per cent, food imports for 21 per cent and machinery and transport equipment for 31.6 per cent. Miscellaneous manufactured articles accounted for another 7.2 per cent of import expenditure. Thus, by 1975 manufactures had become the main item of import expenditure. In 1977 imports of transport equipment, machinery and fabrics and yarn accounted for nearly 40 per cent of total Jordanian imports.[64]

Jordan's main food imports include sugar, vegetable oil, ghee and whiskey, her fuel imports are dominated by petroleum and lubricating oils and greases. Manufactured good (by material) imports consist mainly of rubber tyres, woven fabrics, knitted garment, wool yarn and boys garment. Jordan also imports large quantity of slabs of sheet bars, rods of iron and steel, tubes and pipes and iron and steel structures. Her machinery imports consist mainly of excavating, levelling and extracting machinery, agricultural and industrial machinery and machinery used for road building, machinery parts, electric generators and motors, television sets, apparatus for making and breaking electrical circuits, insolated electric wire and cables, rail locomotives, public transport vehicles, trucks and cargo vans and their parts and accessories and flying machines are Jordan's main transport imports.

Jordan's main industrial exports consist of natural phosphates and cement in the mineral based sector. Her manufactured food exports consist of preserved olives and beer. She also exports human medicants, plastics, tanned leather, craft ppaper, woven fabrics of wool and knitted garments in the intermediate industry sector. Other heavy exports include unwrought lead, articles of zinc, electric lifts and accumulators, electric conduct tubing and stoves and central heating boilers.

Table 13. Composition of Merchandise Exports of Jordan (f.o.b.) 1971-75 (in JD 000's)

	1971	1972	1973	1974	1975
Food and Live Animals	3,683	4,773	4,650	9,565	10,203
Fruits and Nuts	1,005	1,578	1,716	4,274	6,377
Citrus Fruits	743	1,203	1,411	3,732	5,645
Bananas	78	106	36	47	68
Watermelons	55	76	65	237	76
Vegetables	2,056	2,500	2,371	4,886	3,236
Tomatoes and Tomato Juice	1,183	724	916	1,836	1,276
Eggplants	240	291	400	512	482
Beverages and Tobacco	411	452	862	869	1,006
Cigarettes	368	398	546	711	751
Crude Materials, Inedible, Except Fuel	2,347	3,716	4,558	20,033	20,107
Phosphates	2,238	3,497	4,020	19,531	19,585
Mineral Fuels, Lubricants and Related Minerals	31	-	170	129	246
Animal and Vegetable Oils and Fats	320	297	124	474	409
Olive Oil	275	277	82	464	365
Chemicals	382	311	644	1,244	1,946
Manuf. Goods Classified by Mat.	1,077	2,426	2,213	5,360	4,085
Cement	471	1,922	1,296	4,078	1,656
Machinery and Transport Equipment	335	451	453	586	470
Batteries and Accumulators	333	433	409	495	37
Misc. Manufactured Articles	134	179	295	671	1,598
Commodities and Transactions, n.e.s.	37	1	41	7	5
Total Domestic Exports	8,317	12,606	14,010	39,437	40,075
Re-Exports	2,817	4,398	10,141[1/]	10,315	3,799
Total Exports	11,440	17,004	24,151	49,752	43,874

1/ Including JD (5.2) million "non-monetary gold"

Source: IBRD, Special Economic Report on Jordan. Revision of the Five Year Plan, 1976. Statistical Annex, Table 3.2.

Table 14. Composition of Merchandise Imports of Jordan (c.i.f.) 1971-75

(in JD 000's)

	1971	1972	1973	1974	1975
Food and Live Animals	20,125	27,296	30,313	42,740	49,420
Live Animals	778	1,182	2,955	2,373	3,135
Dairy Products and Eggs	2,451	3,235	3,311	3,880	4,822
Wheat and Flour of Wheat	3,843	6,099	7,037	7,137	6,824
Rice	1,306	1,289	1,396	4,276	1,867
Sugar	2,186	5,186	1,779	6,758	11,534
Fruits, Vegetables and Nuts	3,961	3,887	6,439	8,669	9,570
Coffee, Tea, Cocoa and Spices	2,084	1,958	2,523	2,347	2,943
Beverages and Tobacco	1,161	1,187	1,081	940	1,265
Crude Tobacco	956	935	809	601	673
Crude Materials, Inedible, Except Fuels	2,326	2,819	3,166	4,384	5,865
Wood Lumber and Cork	486	841	1,175	986	2,746
Textile Fibers and their Waste	546	761	490	970	1,092
Oil Seeds, Oil Nuts and Oil Kernels	812	429	629	803	539
Mineral Fuels, Lubricants and Related Minerals	4,844	4,566	4,160	5,214	24,893
Crude Oil	4,137	3,312	3,335	3,590	22,794
Animal and Vegetable Oils and Fats	795	1,096	1,514	1,153	1,255
Chemicals	3,216	5,362	5,718	8,058	12,204
Medical and Pharmac. Products	1,257	2,172	2,258	2,843	3,919
Essential Oil and Perfume Mat. Polishing and Cleansing Preps	396	723	827	1,386	1,811
Manufactured Goods by Material	11,916	19,026	23,187	33,892	44,838
Rubber Manufactures	657	1,091	1,198	2,198	3,086
Paper and Paper Board	1,009	1,846	1,919	4,243	3,712
Textile Yarn, Fabrics Made-up Articles and Related Prod.	5,625	7,204	7,646	8,921	12,087
Machinery and Transport Equipment	16,193	15,589	17,193	35,339	74,038
Electr. and Non-Electr. Mach.	5,038	9,864	10,927	17,733	37,486
Transport Equip. and Parts	11,155	5,725	6,266	17,606	36,251
Miscellaneous Manufactured Articles	4,175	6,757	6,185	8,742	16,789
Clothing and Footwear	1,583	2,246	2,280	2,627	7,965
Scientific Inst. Photo Equip.etc.	927	2,289	1,252	1,742	3,116
Commodities and Transactions,n.e.s.	11,876	11,612	15,183	16,045	3,405
Total Imports	76,627	95,310	108,200	156,507	234,013

Source: IBRD. Special Economic Report. Jordan Review of the Five Year Plan. Statistical Annex. Table 35.

A detailed breakdown of Jordan's industrial exports and imports for the period 1960-1975 is given in Azar (Table 22 and Statistical Appendix). It is evident that unprocessed minerals constitute a major source of export earnings as do food products, while an increasing proportion of import expenditures is being devoted to the purchase of capital equipment and machinery.

Table 15 gives a description of changes in the direction of Jordanian trade in manufactures.

Table 15. Change in Direction of Jordanian Trade in Manufactures 1960-1975

	Imports, per cent		Exports, per cent	
	1960	1975	1960	1975
OECD countries	71.25	77.19	7.83	0.25
CMEA countries	12.22	7.83	-	2.84
LDCs except Arab	8.43	6.43	-	0.29
Arab countries	8.08	8.53	92.17	96.60

Source: Azar: Long-term Prospects for Industrial Development in Jordan. Statistical Annex. Tables 25 and 28.

It is clear that there has been no significant structural change in this period. There has been a marginal increase in the share of the West in Jordanian imports from 71.25 per cent to 77 per cent in this period - with Western Europe emerging as the main source of imports of manufactured goods. There has been a substantial decline in the CMEA countries share of Jordan manufactured imports and a very minor increase in the share of manufactured imports from Arab countries.

Arab countries buy over 95 per cent of Jordan's manufactured exports - they have increased their share from 92 per cent in 1960 to almost 97 per cent. This underlies the importance of regional co-ordination in planning the industrial development of Jordan. Since the present Plan has opted in favour of an export oriented industrialization strategy an appreciation of the possibilities of economic harmonization with the Arab countries - in

particular the countries of the Fertile Cresent, is absolutely vital for ensuring self-sustaining development patterns within the industrial sector. As the processing of locally produced minerals in Jordan - particularly phosphates - increases the need for regional co-ordination and harmonization of regional trade, investment and production in a wide range of industrial sub-sectors will assume greater significance. 65/

Participation of the public and private sectors in Jordanian Industry

According to the Government "the Jordanian economy is overwhelmingly a private enterprise economy ... when necessary and desirable the Government acts in the role of a limited partner in economic projects where initial capital costs are too great for the private sector to bear. The Government has never departed from the policy of "laissez-faire". 66/ The World Bank endorses this view and notes that "the Jordanian economy is an essentially open and laissez-faire economy although since the mid 1950s the Government has acted in a regulatory and promotional capacity". 67/ Tables 16 and 17 would indicate, however, that equity participation by the Government in industrial companies has been significant. It has a majority share in the Jordanian Paper Mills, the Jordanian Phosphates Mines, in Jordanian Hotels and Tourism, Holy Land Hotels, Federation of Amman Buses, and in the Jordanian Cement Factories. Its equity participation exceeds 30 per cent in Aqaba Hotels, Himana Mineral Water Co., Jordanian Confectionary, the Industrial Development Bank and the Vegetable Oils Industry. In sectoral terms Government equity participation as a percentage of authorized share capital amounted to 26 per cent in the mining and manufacturing sector in the early 1970s. Within the industrial sector government equity participation was highest in the mining and the heavy resource based manufacturing sector. The medium sized and small manufacturing sector was completely in the hands of private entrepreneurs. Medium sized industries are in the food processing, clothing, textiles, footwear and metal products sub-sectors. The main source of expansion has been import substitution 68/, but they have also had some success in penetrating export markets. 69/ The small-scale firms which

Table 16. Government Equity Participation in Industrial Tourism and other Companies, December 31, 1971

Company	Authorized share Capital	Private Paid Share Capital	Government Paid Share Capital	JD million Percentage of Government Participation
1. Jordanian Dairy	0.100	0.026	0.023	23
2. Vegetable Oils Industry	0.500	0.265	0.179	36
3. Jordanian Confectionery and Chocolate Factories	0.200	0.015	0.053	37
4. Jordanian Bakeries	0.100	0.041	0.026	26
5. Jordanian Woolen Mills	0.500	0.389	0.111	22
6. Industrial Development. Textiles	0.250	0.159	0.071	28
7. Jordanian Paper Mills	0.600	0.212	0.388	64
8. Jordanian Tanning	0.400	0.300	0.100	25
9. Industrial, Commercial Agricultural	1.000	0.739	0.029	3
10. Jordanian Petroleum Refinery	8.000	6.180	0.500	6
11. Arab Potash	4.501	1.673	0.500	11
12. Arab Drugs Industry	0.250	0.195	0.055	22
13. Jordanian Cement Factories	4.500	2.272	2.228	51
14. Jordanian Phosphate Mines	3.000	1.092	1.908	64
15. Jordanian Ceramics Factories	0.075	0.005	0.002	3
16. Jordanian Electricity	3.000	2.544	0.034	1
17. Irbid District Electricity	1.000	0.503	0.179	18
18. Jordanian Hotels and Tourism	0.723	0.103	0.620	86
19. Holy Land Hotels	0.600	0.006	0.500	83
20. Aqaba Hotels	0.300	0.150	0.130	43
21. Tourism Transport	0.300	0.248	0.025	8
22. Federation of Amman Buses	0.800	0.341	0.458	57
23. Jordanian Fisheries	0.100	0.035	0.016	16
24. Jordanian Himma Mineral Water	0.085	0.027	0.035	40
25. Agricultural Products Marketing	0.600	0.063	0.200	33
26. Agricultural Products Canning	0.250	0.249	0.001	+
27. Industrial Development Bank	3.000	0.000	1.099	37
Total	34.734	18.732	9.470	27

Source: Jordan Ministry of National Economy. Investment Conditions and Opportunities in Jordan. Amman, 1972, p. 18.

according to the 1974 census accounted for over 90 per cent of total industrial establishments [70] engage in stone cutting, carpentry, tailoring, pottery and wood carving.[71] Although the Government has no plans of acquiring equity in these sectors it seeks to encourage the rationalization of production procedures through providing institutional support. The small-scale "cottage" industry sub-sector has been generally ignored by the Government which believes that in order to enjoy substantial economies of scale, Jordanian industry must be modernized and this has in general implied a bias towards favouring the development of capital intensive technologies.

Table 17. Government Equity Participation in Industrial, Tourism and other Companies, December, 31, 1971

	No. of Companies	Authorized Share Capital	Private Paid Share Capital	Government Paid Share Capital	JD 000 Percentage of Government Paid Share Capital
Mining and Industry	15	23,976	13,563	6,173	26
Electricity	2	4,000	3,047	213	5
Hotels	3	1,623	259	1,250	77
Transport	2	1,100	589	483	44
Fisheries	1	100	35	16	16
Mineral Waters	1	85	27	35	40
Marketing	1	600	63	200	33
Canning	1	250	249	1	+
Financing	1	3,000	900	1,099	37
Total	27	34,734	18,732	9,470	27

Both the Three and the Five Year Plans have emphasized the primary importance of the private sector in the development of Jordanian industry. Both, however, concede that high levels of public industrial investment are necessary. Table 18

gives the sectoral allocation of investment in the Three and Five Year Plans. Total public sector investment is 65 per cent of gross investment in the Five Year Plan (JD 382 million as shown in the Table plus JD 115.2 million in the mixed sector is included in Table 18 under private investment). The public sector's contribution is most marked in the "infrastructure" economic sectors (irrigation, electricity and transport, etc.) but it also constitutes a large part of investment in mining. 45 per cent of investment in the mining sector is exclusively under the control of the state which also has a large stake in mixed ventures within this sector. Mining is expected to generate almost 50 per cent of growth of Government domestic revenue. [72] Mixed domestic (public, domestic, private and foreign public and foreign private capital and management are combined in a variety of ways) ventures also constitute a significant share of investment in

Table 18. Sectoral Allocation of Planned Investment.Jordan, 1973-1980
(JD million)

	Three Year Plan			Five Year Plan		
	Public	Private	Total	Public	Private [1]	Total
Agriculture	23.5	4.1	27.6	12.0	28.0	40
Irrigation [2]	-	-	-	72.1	-	72.1
Water [2]	-	-	-	25.3	-	25.3
Mining	5.8	20.3	26.1	0.3	168.9	169.2
Manufacturing						
Electricity	5.7	4.1	9.8	35.5	7.3	42.8
Transport	27.8	8.0	35.8	111.2	8.7	119.9
Housing	3.4	31.5	34.9	23.0	63.0	86.0
	14.1	0.7	14.8	38.8	-	38.8
Others	19.3	9.7	30.0	36.6	74.3	110.9
TOTAL	99.6	79.4	179.0	382.0	383.0	765.0

Notes: 1/ Including public investment in the mixed sector.

2/ Included in Agriculture for the Three Year Plan period.

Source: IBRD: Special Economic Report. Jordan, 1976, p. 14.

manufacturing. Government participation is most pronounced in the export oriented mineral based industries, fertilizer, cement and oil refining. Medium- and small-scale industries are left exclusively in the hands of the private sector. Loans and guidance to these industries are to be provided mainly through the operations of the Industrial Development Bank. 73/

Firm figures on foreign capital stock in Jordan are not available. The Government encourages foreign investment and favourable legislation has been enacted since 1955 when the Law for the Encouragement and Guidance of Industry was enacted and a number of organizational changes in the public industrial sector are related to the drive to promote foreign investment. Prior to the 1967 war most foreign investment 74/ went into the tourism industry. 75/ Foreign investment both public andprivate is now mainly attracted towards the mineral based industries. Foreign sector participation in the major manufacturing and mining projects during the Five Year Plan are given in Table 19.

Table 19. Foreign Participation in Major Five Year Plan Projects

(in JD000 and percent of total)

	Foreign participation	Total investment	Foreign participation as percent of total investment
Oil exploration	3,250	4,630	70.13
General prospecting	250	525	47.16
Thermal energy	75	300	25.00
Natural resource workshop	110	465	23.65
Phosphate		24,000	-
Petroleum refining a/	20,500	39,000	52.66
Cement a/	4,000	8,000	50.00
Fertilizer	41,000	61,000	51.21
Cement	n.s.	21,000	
Potash	12,400	25,000	49.60
Textile	n.s.	3,000	-
Copper	n.s.	5,000	-
Industrial estates	n.s.	1,600	-

Notes: n.s. = not specified; a/ including local loans.

Source: Five Year Plan, p. 177-188.

Foreign investment is thus a significant contributor to most of these projects. The foreign capital inflow required to meet planned investment targets during 1976-1980 is JD 262 million. This may be an underestimate. The JD 265 million investment target "includes an unknown magnitude of escalation for some of the major projects".[76] This figure which appears in the national accounts, budgetary and balance of payments statements projections of the saving-investment gap. Moreover, the projected level of cost escalation may turn out to be rather modest. Furthermore, borrowing requirements given in the Plan imply an export growth rate of 22 per cent and an import growth rate of only 7.3 per cent per annum over the plan period. If this assumptions proved unrealistic foreign borrowing requirements are likely to be higher.

Gross foreign borrowing for the plan period is projected at JD 334 million, over 20 per cent of which (i.e. JD 67 million) is to consist of foreign investment and borrowings from the private sector. It is difficult to separate local and foreign capital inflows into the industrial sector. Total financing is expected to equal JD 229.12 million; JD 34 million from the general budget, JD 105.1 million from "company capital and resources", JD 275 million from "foreign subscriptions", JD 108 million from "foreign assistance", JD 24.5 million from "local and foreign loans", JD 55.7 million from "foreign loans", JD 1.6 million from the Industrial Development Bank and JD 35 million from the "private sector".[77] It is not possible from the Plan document to make a functional differentiation between these categories and to estimate the extent of foreign participation under "company capital and resources", "local and foreign loans", contribution from the Industrial Development Bank and "the private sector". A failure to clearly distinguish between foreign and local sources of industrial financing is an important weakness in the Plan and makes an evaluation of the industrial sector in accordance with plan targets and criteria very difficult. However, in general it would appear that foreign capital is seen as playing an important part in Jordan's industrial development. Naturally there is a concern to attract petrofunds to Jordan and Arab interest and involvement in Jordanian industrial investment is high and continuing to expand.[78] This Arab investment is

usually public, and regional economic integration in the area will involve an expansion of the public sector in Jordanian industry. This opens up possibilities of establishing mixed private and public sector industrial firms (involving western based multinationals for example) which are concerned both with efficiency and competitiveness in world markets and in evolving a production strategy which facilitates national and regional objectives of ensuring a wider and fairer distribution of income and of meeting the basic needs of the lower income groups in the different countries.

Chapter III

PERFORMANCE OF THE INDUSTRIAL SECTOR: ANALYSIS

Assessement of industrial indicators

In this section we have tried to estimate the relationship between a number of indicators that measure the performance of the industrial sector. Time series data were not available and in the interests of consistency we took the data from one source only - the Industrial Survey conducted by Miner and Associates for UNIDO. As noted previously this relates to all firms employing 5 persons or more in the mining and manufacturing sector in Jordan. Data were collected during 1972. The following industries have been considered:

1. Mining
2. Food
3. Beverages
4. Textiles
5. Apparel
6. Leather
7. Footwear
8. Furniture
9. Paper
10. Printing and publishing
11. Petrol refining
12. Rubber
13. Non-metallic minerals
14. Basic metals
15. Machinery
16. Electrical machinery
17. Transport
18. Other manufactures
19. Chemicals
20. Tobacco

For each of these industries we have estimated variables as shown in Table 6. They are:

A = Industrial cost = cost of raw material + wages upon the value of output at current prices.

B = Raw material imports upon value added at current prices.

C = Book value of fixed investment upon value added at current prices.

D = Book value of fixed investment upon value of output at current prices.

E = Value added/Employment.

F = Imported raw material cost/cost of total raw material (at current prices).

G = Net revenue/value of output (both at current market prices).

The value of these indicators is given in Table 6. Table 20 gives the inter-industry correlation matrix. The following relationships ought to be noted:

1. There is a significant positive correlation between the industrial cost indicator and the raw material imports to value added ratio and a significant negative correlation between the industrial cost ratio on the one hand and the value added upon employment and the raw material import ratio on the other. It would appear that the labour-intensive, generally small- and medium-sized have high industrial cost. The somewhat analogous positive correlation between industrial cost and imports as a proportion of value added would be easily explained by the low levels of value added generated by these enterprises. The larger firms with higher levels of labour-productivity have lower unit industrial cost.

2. The investment ratios are positively associated with the raw material import/value added ratios in particular with Indicator F. There is also a positive association between the investment indicators and the industrial cost indicator. Interestingly there is no strong relationship between the investment ratios and the value added/employment ratio. Thus, there does not appear to be any significant difference in the investment structure of the capital-intensive firms and the small- and medium-sized ones. Investment ratios may be more directly related to the firm's needs for imports than to its overall capital intensity.

3. The value added/employment ratio (which may be taken as a proxy for labour productivity) has a very high correlation 0.989 with the output/employment ratio shown in Table 21 and is negatively correlated with the industrial cost ratio and signficantly positively correlated with the imported raw material/total raw material ratio and the net revenue ratio. The message here seems to be quite clear. Firms with relatively high labour productivity have relatively high net revenue ratios, high raw material import input content and relatively low industrial cost. That is to say, it is the modern large-scale sector firms which have high import

Table 20. Inter-industr/ Correlation Matrix Jordan, 1972

	A	B	C	D	E	F	G
A Industrial cost/output	1	0.261[a]	0.198[a]	-0.058	-0.423[a]	-0.218[a]	-0.150[a]
B Raw material imports/value added		1	0.481[a]	0.188[a]	0.009	0.660[a]	-0.074
C Investment/value added			1	0.924[a]	-0.075	0.380[a]	-0.044
D Investment/output				1	0.038	0.306[a]	0.037
E Value added/employment					1	0.211[a]	0.330[a]
F Imported raw material/total raw material						1	-0.014
G Net revenue/value of output							1

a/ Statistically significant at 5 per cent confidence level.

Source: Table 6

input content, high profit rates and low industrial cost ratios. Firms with low labour productivity ratios (i.e. firms in the small-scale industrial sector) have low net returns and high industrial cost.

4. The net returns ratio is positively correlated with the labour productivity ratio and negatively correlated with the industrial cost ratio. It has no significant relationship with the investment/output ratio or any other indicator in Table 20. Once again, the general finding seems to be that firms within the modern sector are relatively more likely to earn high returns, whereas the net returns of the traditional small- and medium-sector firms are likely to be more moderate.

5. In general, the information in Table 20 seems to distinguish clearly between the economic performance of the modern and the traditional sectors of the Jordanian industry. The former consists of firms with higher labour productivity, higher net returns, higher import content and lower industrial cost. The small sector firms have lower profit, lower raw material import content and higher industrial cost. The combination of higher import content and lower industrial cost for the modern sector seems to suggest that Government policy has a large role in determining the higher net returns on this sector. It is well known that a very large proportion of industrial raw material imports are in effect subsidized in Jordan through the Government's licensing policy and its commitment t maintain a relatively over-valued exchange rate. Similarly there is also a policy of industrial pricing and of granting of tax reliefs, holidays, etc., which would tend to suggest that the net returns of the modern sector are maintained at a high level and industrial costs are held low. It has unfortunately not been possible to calculate effective rates of protection for the different groups of Jordanian industry and to quantify the difference that Government policy makes to intra-industrial cost and productivity structure. A calculation of these should be given priority for it will help us to determine the true difference in the performance of the large- and small-scale industries.

A final point that ought to be made is that despite differences in cost structures and in net returns, investment behaviour (as measured by indicators in Table 20) did not seem to vary significantly between the

different sectors of the Jordanian economy.

The CES production function for the Jordanian manufacturing sector

Arrow, Chenery, Minhas and Solow in their Review of Economics and Statistics article (1961) derived the Constant Elasticity of Production Function, which may be written as

(1) $$Y = A \left[DK^{-P} + (1-D) L^{-P} \right]^{-1/P}$$

where Y, K and L stand respectively for the actual values of output, the actual value of capital inputs measured in money terms at constant prices and the inputs of labour measured in number of men employed. The function assumes constant returns to scale and the technology embodied in it is measured by three parameters which are assumed to be constant: A, the "efficiency parameter", measures the volume of output obtained from given quantities of inputs; D is a measure of the capital intensity of the technology and shows the distribution of income between capital and labour; P is the substitution parameter. The elasticity of factor substitution equals $1/(1+P)$.

A time series estimate of the CES can be derived and gives useful insights into changes in production technology, but we could not use it due to the lack of data on wages per worker in different groups of industries.

A cross section estimate of the CES production function was obtained [79a] for 28 Jordanian industries for which data on output, employment and wages are obtainable from Miner and Associates (Vol. 1-3). The results are summarized in Table 21.

Table 21. Cross Section Estimate of the Elasticity of Substitution in 28 Jordanian Industries, 1972

Industries	Elasticity of Substitution	Standard error	R^2
Consumer goods	1.150	0.67	0.49
Intermediate goods	1.578	0.42	0.63
Capital goods	1.376	0.59	0.49
Total	1.360	0.1006	0.422

Source: Miner Assoc., Industrial Development of Jordan for UNIDO, Annex 1.

The R^2 are not particularly high. This is partially explained by the narrow range of variations in wage rates. This leads to relatively high standard errors, but is not the source of bias in the elasticity of substitution co-effienct.

The estimates of the elasticity of substitution range from 1.15 for the consumer goods industries to 1.57 for intermediate goods industries. An F-test revealed that the regression co-efficients are significantly different from zero at a one-per-cent level of confidence. The estimate of elasticity of substitution for the consumer goods industries is not, however, significantly different from 1 at a 10 per cent level of confidence.

It is generally expected that industries with higher elasticities of substitution would record larger increases in their capital-labour ratio and would therefore achieve larger than average increases in their labour productivity. On the other hand, industries which have low substitution elasticities are expected to have low rates of increase in labour productivity. We tested this by comparing rates of growth of labour productivity across Jordanian industries with their substitution elasticities. Table 22 shows that there is a clear association. Above average increases in labour productivity were found where elasticity of substitution between capital and labour was highest. This particularly true of industries in the intermediate goods sector where both the elasticity of substitution and the growth of labour productivity is higher than in the other two sub-sectors of Jordanian industry. Ability to substitute capital for labour was thus an important factor behind the increase in productivity in Jordan.

Table 22. Comparison of Elasticity of Substitution Estimates and Rate of Growth of Labour Productivity in Jordanian Industries

Industry	Elasticity Substitution	Rate of productivity growth 1965-1974 annual average (ε)
Consumer goods	1.15	9.76
Intermediate goods	1.578	26.25
Capital goods	1.376	15.66

Source: Table 21; Azar, Long-term Prospects of Industrial Development in Jordan, Statistical Annex.

Patterns of industrialization

A more detailed picture of the pattern of industrial growth in Jordan may be obtained by attempting to estimate "sources" of industrial expansion in accordance with the method first presented by Chenery ("Patterns of Industrial Growth", American Economic Review, 1960) and develcped by Lewis and Soligo ("Growth and Structural Change in Pakistan's Manufacturing Sector", Pakistan Development Review, 1965) and Ahmad ("Import Substitution and Structural Change in Indian Manufacturing Industry, 1950-1966", Journal of Development Studies, 1968). This method separates changes in domestic production of a commodity according to the use for the satisfaction of which this increased production is deployed; for satisfying increased domestic demand, an increase in exports or an increase in the substitution of imports by domestic suply. This separation of increase of domestic output by its "source" is made possible by the application of the formula

$$\Delta X = M_1 \Delta (D + W) + M_1 \Delta E + (M_2 - M_1) Z_2 \qquad (2)$$

Where X = domestic production

D = final domestic demand

W = intermediate demand

E = export demand

Z = total supply = X + imports

M_1 = X, /Z, and

M_2 = X_2/Z_2 (i.e. M is the ratio of domestic production to total supply)

Application of (2) allows us to separate increase in domestic output in an industry on the basis of (a) an expansion of domestic demand = $M_1\Delta(D+W)$ (b) an expansion in export = $M_1 \Delta E$ and (c) an expansion in import replacement $(M_2 - M_1)Z_2$.

Equation 2 was used to separate components of expansion of domestic production in 19 Jordanian industries on the basis of data provided by Azar (Long-term Prospects of Industrial Development in Jordan, Statistical Appendix, Table 12). By aggregating our findings, i.e. by applying

$$\Delta X_{IS} = \Sigma \Delta X_i = \Sigma M_{1i} \Delta (D_i + W_i) + \Sigma M_{1i} \Delta E_i + \Sigma (M_{2i} - M_{1i}) Z_{2i} \qquad (3)$$

Where Δ_{IS} = change in output of the whole industrial sector.

to the industrial sector, we can estimate the importance of these three sources of Jordanian industrial sector as a whole as well as for its major subsectors (i.e. consumption, investment and intermediate goods industries).

Table 23 gives the result of applying expression (2) to Jordanian industrial data. Table 24 summarizes the main results by applying expression (3) to the major sub-sectors of Jordanian manufacturing.

The following features characteristic of the growth of the Jordanian manufacturing sector emerge from an examination of Table 23 and 24.

1. There have been significant changes in the main "sources" of industrial growth during these three periods. In the first period expansion of domestic demand and import substitution were equally important sources of growth - the latter for investment goods and the former for the consumer and intermediate goods sector. In the second period the main source of growth in the manufacturing sector was import substitution, particularly in the capital goods sector. In the third period import substitution made no contribution to manufacturing growth whatsoever and the main source of growth was expansion in domestic demand.

2. Exports have not been a major source of output growth in any of the three periods. In the first period, they were particularly insignificant but their importance as a growth source has risen over time. Export growth seems to be an important factor influencing growth in the intermediate and investment goods industries. In these industries as well as in the consumer goods sector expansion of domestic demand is the most important source of output growth. Rapid growth of GNP, accelerated in particular by large inflow of worker remittances from the Gulf States, has stimulated industrial growth very significantly. The negative contribution of domestic demand in the investment goods sector in the period 1963-1970 may be explained with reference to the fact that the 1967 War and the subsequent civil unrest had led to a considerable reluctance in setting up new plants, building of new houses, factories, etc. The reconstruction really got under way in the Three-Year Plan period and in that period the contribution of domestic demand expansion to growth in the investment industries was very high.

3. The high level of import substitution in the capital goods industries in the first two periods is partially due to the Government's large concession granted, in the form of tax relief, subsidising of imports, etc., to investment in this sector. During the Seven-Year Plan and the Third-Year Plan, public investment was also channelled towards the mineral resource-based industries, thus creating further impetus for giving concession to this sector and making import substitution easy. Import substitution in

Table 23. Sources of Growth in Jordanian Manufacturing Industry, 1960-1975 [a]

(value in thousand JD at current market prices)

Name of industry	1960-1965				1965-1970				1970-1975			
	A	B	C	Total	A	B	C	Total	A	B	C	Total
Food	3,302.2	140.4	2,307.4	5,750	1,315.2	-33.3	990.1	2,272	13,215.6	386.2	-8,142.7	1,759
Beverages	142.6	-	27.4	170	15.1	9.6	- 27.7	- 3	1,272.0	187.4	496.9	1,964
Tobacco	382.1	301.8	- 113.7	570	- 378.1	73.1	- 28.2	- 333	886.8	191.2	182.1	1,260
Textiles	308.7	- 0.2	12,745.0	1,523	- 294.6	36.8	- 83.2	- 341	1,946.0	137.5	360.5	2,944
Apparel	421.4	12.0	369.7	803	-64.2	2.5	-487.2	- 549	2,760.9	279.0	-1,243.9	1,796
Leather	35.7	0.5	592.8	628	-291.4	-3.0	- 78.6	- 373	510.0	219.6	178.8	908
Footwear	254.0	17.2	173.8	445	-242.1	8.8	- 19.7	- 253	372.0	108.5	- 781.7	- 302
Furniture	1,347.9	- 0.7	87.8	1,435	46.9	- 2.4	- 0.5	44	883.3	15.0	- 290.3	608
Paper	81.4	4.2	116.3	202	26.7	17.9	137.3	182	903.7	57.7	- 22.8	738
Printing	333.5	4.5	-	338	124.0	- 5.8	-	319	514.0	6.0	-	520
Chemicals	306.5	7.1	1,161.4	1,415	448.9	65.8	113.3	628	2,583.0	767.5	-2,868.5	482
Petrol Refinery	-	-	4,639.0	4,639	-631.4	-54.4	-937.8	-1,623.5	13,121.7	144.0	-4,781.3	8,484.4
Rubber	-209.0	0.4	- 223.5	- 244	+11.5	-	36.5	25	192.6	0.7	- 211.3	- 18
Non-metallic minerals	627.0	46.4	425.3	1,099	-1,216.3	186.8	-599.5	-1,629	676.1	853.2	-1,475.3	54
Basic metals	350.5	0.1	1,229.4	1,580	967.3	0.2	2,146.5	3,114	11,334.1	306.7	-10,120.8	1,520
Machinery	- 21.3	-	- 73.6	- 95	44.2	-	-42.2	2	402.2		7,557.8	7,960
Electrical	20.7	2.4	484.9	509	12.3	36.6	213.1	262	3,086.4	-20.0	-2,689.3	377
Transport	202.7	-	284.3	487	163.2	-	15.8	179	5,690.2	-	5,415.7	275
Other	319.7	1.3	-188.9	132	410.3	-6.2	-120.1	284	- 42.2	2.4	153.9	114.0

Source: Azar, op.cit., Table 12, Appendix.

a/ $A = E_1 (D+E)$; $B = H_1 E$; $C = H_2-H_1 (Z_2)$

Table 24. Summary: Sources of Growth in the Jordanian Manufacturing Sector

(percentage)

Percentage of total growth due to	Domestic demand	Export growth	Import substitution
1960-1965:			
Consumer goods industries	54.69	4.15	41.14
Intermediate goods industries	52.86	0.91	45.47
Investment goods industries	14.26	0.62	85.11
1965-1970:			
Consumer goods industries	22.06	19.06	58.84
Intermediate goods industries	83.39	4.98	11.61
Investment goods industries	-217.04	55.58	249.63
1970-1975:			
Consumer goods industries	165.51	10.95	- 76.47
Intermediate goods industries	226.21	45.49	-171.71
Investment goods industries	185.77	7.05	- 92.98

Source: See Table 23.

the consumer goods sector has been relatively lower precisely because public investment (and involvement of other sorts) has been slight. Therefore, one would expect that inputs into this sector are less subsidized than inputs into the investment goods sector. Also, the public sector is not likely to be a major buyer of the output of consumer goods industries. For both these reasons, competition between domestically produced consumder goods and consumer goods imported is likely to be still. Statements of this type are at present in the nature of generalizations because of the lack of firm evidence about the pattern of Government support to different groups of manufacturing industries. Such information could be made available by calculating effective rates of protection for Jordan's industries.

4. The negative contribution of import substitution to manufacturing output growth in all groups of industries during the period 1970-1975 is explained by the massive increase in import demand generated within the

Jordanian economy in response, first of all, to reconstruction after the June War and the 1970 civilian clashes and, secondly, in response to the massive inflow of oil money on the one hand, and remittances from Jordanians on the other. Both of these factors were of less significance during the 1960's. It was in the wake of the oil boom that Jordanian workers started to be recruited in large numbers (in the 1960's unemployment in Jordan had been in the rate of 7-8 per cent, today it is less than 2 per cent of the labour force) by the Gulf entrepreneurs. Similarly is was only after petro-funds bedame readily available (i.e after the 1973 oil price hikes) that Arab public sector investment in Jordan became such a major factor. With a high propensity to import, the availability of foreign exchange and the undertaking of an ambitious development programme inevitably meant a reduction in the proportion of domestically produced goods to total supply in all groups of industries. The reduction of import substitution as a contribution to output growth in the manufacturing sector reflected not a sudden reduction in the "efficiency" of domestic production of these goods but rather the easier availability of foreign exchange resources. Had these foreign exchange resources not been made available, import substitution, particularly in the mineral-based industries, would have probably continued.

5. A serious attempt to reduce the trade deficit will undoubtedly lead to the creation of capacity for import substitution within the Jordanian manufacturing sector. Given existing Government policies, import substitution capacity is likely to emerge in the non-consumer goods sector. A recent study by the Jordanian Royal Scientific Society[79b/] argues that import substitution possibilities exist in industries producing electricity, gas and liquid meters, lamp and lighting fittings, tubes, pipes and their fittings, taps, valves and corkscrews, bolts, nuts, nails and springs.[79c/] If Government policy were to become more favourable for the development of light industry import substitution possibilities would in all probability emerge within consumer goods manufacturing branches as well. However, import substitution created deliberately by Government protectionist policy creates an industrial structure characterized by inefficiency and industries developed in such a manner take a considerable time period before they can significantly penetrate export markets. If export expansion is envisaged within the context of a Common Market - the Arab Common Market has not borne much fruit, but the integration with Syria and the possibilities of co-operation

with Iraq are much more significant developments - there need be not contradictions between achieving an expansion in both export demand and in import substitution within the same branches and sectors of Jordanian manufacturing. In other words, given the fact that in the immediate future Government policy will be an important determinant of where import substitution capacity will emerge, it is important to review the system of industrial production and incentives with a view to regional harmonization so that today's inefficient industries which substitute imports mainly because of Government support and protection become capable, due to the existence of the opportunities and challenges of a large regional market, to outgrow their inefficiency and become strong international competitive in the not too distant future.

CHAPTER IV

INDUSTRIAL DEVELOPMENT POLICY

Constraints and objectives

Jordan's industrial development is constrained by a number of factors, some of the most important are listed below.

1. Jordan has a relatively narrow resource base and the development of a diversified industrial and manufacturing structure requires the easy availability of a wide range of resources. Jordan's comparative advantage lies in the development of mineral processing industries - a comparative advantage which she is wholeheartedly seeking to exploit, but due to the wide variations in the price of minerals - and indeed the secular decline in the terms of trade of primary products - investment from private sources is not easy to procure. Moreover, multinationals prefer to locate processing units in developed market economies for a host of reasons. Thus, mineral based processing industries have to rely heavily on the mobilization of public investment funds. Jordan has clearly realized that despite her commitment to "laissez-faire" a resource based industrialization strategy must mean an expansion of the state as a source of industrial investment. However, the rapid growth of defense and social service expenditure constitute a strong barrier in the way of rapid expansion of government industrial investment.

2. The Jordanian Government's defense and social services commitments have been increasing due to the political uncertainties and crises of the Middle East. Since independence Jordan has fought three wars and been the theatre of a full scale civil conflict in 1970. It has had to absorb hundrends of thousands of destitute refugees and to readjust its economic and social life after losing its most fertile and productive province which has been under Israeli occupation since 1967. The fact that after each repeated shock the economy has been

able to recover and recoup the lost ground and surpass former levels of growth is proof of its inherent resilience. But the fact that Jordan has had to face so many shocks and catastrophies has meant that economic growth has been very uneven in most sectors. Peaks and throughs have been usually steep. Attempts at rationalizing production processes within the industrial sector or at harmonizing various aspects of state industrial policy have not borne fruit sometimes because of unprecedent or unforeseeable developments.

3. One of the unprecedented - though perhaps not unforeseeable - developments has been the astoundingly rapid expansion of economic activity in the oil rich states of the Middle East. This expansion in construction, commerce and service industries in Saudi Arabia and the Gulf States has affected the Jordanian economy by inducing a large number of skilled and unskilled workers (including technicians and management personnel) to emigrate. Labour and skill bottlenecks have developed within the Jordanian industrial sector and the Government has felt obliged to adopt an industrialization strategy which encourages the deployment of capital-intensive techniques of production. This accentuates the dualistic tendencies of the economy widening the gap between the skilled and unskilled labour force on the one hand, and, on the other, it threatens to increase the vulnerability of the Jordanian economy to external developments. Employment of a relatively capital-intensive technology necessitates a search for export markets for the development of heavy industrial complexes does not generate high levels of domestic demand. Secondly, this type of investment requires large inputs of foreign technology and capital imports - areas in which effective import substitution possibilities simply do not exist for the vast majority of developing countries including Jordan. A capital-intensive mineral resource based industrialization strategy tends to increase the "openness" of the Jordanian economy.

4. The "openness" of the Jordanian economy constitutes both a challenge and an opportunity to Jordanian industrial planners. It is an opportunity in that it allows Jordan to gear its industrial development to a far bigger market than the national economy of two million Jordanians could provide. But it is a challenge in that the ever-growing deficits on the current account of Jordan's balance of payments makes its Government more and more dependent on the availability of foreign budgetary support and foreign public investment for the undertaking and sustainment of industrial development programmes. Some of the delay in project implementation during the Five-Year Plan period has been specifically due to problems related to the obtaining of firm foreign investment commitments. In order to reduce economic dependence the only realistic alternative open to Jordan is to aim consciously at the development of a regional industrial structure in which the resource potential of the different nations are developed in accordance with a strategy which seeks integration through exploiting the possibilities of regional sectoral linkages and the explicit fostering of structural complimentary within the region. Jordan's commitment to economic co-operation with Syria and Syria's extended programme of economic integration with Iraq provides a useful opportunity for constructing industrial complimentarity in the economic structures of these countries.

5. Emphasizing regional integration will allow Jordan to deal effectively with another important constraint on its industrial development: the problem of organizing the traditional manufacturing sector. As we noted earlier, almost 90 per cent of the total number of Jordanian industrial establishments are within this sector. These provide an important source for developing backward and forward linkages between the urban and rural sector and for the employment of rural migrants. An expansion of the medium-sized establishments at the cost of the traditional industrial sector will mean an accentuation of dualistic tendencies within the economy and an ever increasing flow of

migrants to the oil states. Thus, Jordan will deprive itself of an important source of entrepreneurial skill. There is ample scope for the existence of a labour-intensive import substituting industrial sub-sector and its existence need pose no threat to Jordan's regional partners for its imports originate mainly in the Western countries. The ability to identify import substitution potential and to exploit it through the use of a labour-intensive technology may allow Jordan to come to grips with the problem of imbalance in the inter-regional and intra-personal distribution of income and wealth; a problem that is likely to grow in economic significance and in political salience now that inflation pressure is high and standards of living of the low income groups are falling. The protection of the informal industrial sector is an important mean for protecting the jobs and incomes of these people as well as a mean for reducing Jordan's enormous import bill.

The relative importance that Government ascribes to these constraints on industrial development can be read from the objectives that underline its industrial investment programme in the Five-Year Plan. These objectives are:

"(a) Increase income from this sector from JD 45 million in 1975 to JD 144 million in 1980 or at an annual average rate of 26.2 per cent;

(b) Achieve a better geographical distribution of new industries sites ... Selected locations will be provided with better infrastructural facilities in order to attract industries to these regions. In addition, existing industries will be relocated within industrial zones in accordance with local town planning requirements;

(c) Develop the activities of mining and industry through the following measures:

(i) Process local raw material into finished products whenever economically feasible and export raw material which cannot be processed locally;

(ii) Establish and develop food industries with particular emphasis on the processing of local agricultural products;

(iii) Establish new processing industries and expand existing ones with a view to producing import subsituting consumer and intermediate goods as well as export-oriented commodities.

(d) Achieve a greater degree of integration and interaction among local industries within the sector and between the industry and mining sector and other economic sectors such as agriculture and construction;

(e) Achieve a higher degree of Arab industrial co-ordination and ... co-ordinating ... their long-term strategy of industrial development;

(f) Increase domestic exports of mining and industrial products from JD 33 million in 1975 to JD 150 million in 1980;

(g) Continue geological studies on prospective raw materials ... and efforts on oil exploration." 79d/

It is obvious that the Government is articulating a resource-based, export-oriented industrialization strategy. Crucial to the success of such a strategy is the accurate identification of a country's potential comparative advantage and its ability to influence the policies of major producers, traders and consumers in the world (or regional) markets of these industries. An assessment of a country's capabilities in these two areas must be based upon its ability to increase the investment flows to the potentially competitive sectors and increase its ability to influence production and trade policies within these sectors. In the next two sub-sections are outlined the macro-economic framework within which industrial development has been planned and the institutional framework that has evolved as a media for the articulation of industrial development policies. This will enable us in the final section of this study to assess the prospects for Jordanian industrialization and to suggest a role which UNIDO can play in the industrial development of this country.

Planning industrialization

The Jordanian Government has been involved in industrialization programmes in a formal way since 1952 when the Ministry of Planning was established. Its first major venture in this field was the decision to co-operate with a group of Jordanian merchants in the establishment of a medium-sized cement plant. The Government contributed 49.5 per cent of the share capital of this company. In 1956 a petroleum refinery was established with the Government equity participation being 16 per cent. The Government emphasized the role of the private sector as the main agent of industrial development and was willing to give substantial concessions for the establishment of large-scale modern industrial enterprises. These concessions included protection of infant industries through the levying of import duties, quantitative restrictions, domestic tax exemptions (usually granted for a period of four years) and duty-free import of required capital equipment and raw material for these industries. The "Industry Section" of the Ministry of Planning also conducted a series of feasibility studies for major industrial projects. Finally, it was during this period that the Law for Encouragement and Guidance of Industry and the Law for Encouragement of Foreign Investment were adopted in 1955.

In 1962 the First National Economic Plan was inaugurated.[80/] The Plan envisaged the granting of liberal concessions to the private sector, which was seen as the main motive force behind industrial development. During this period the Law for the Encouragement of Foreign Investment bore fruit in the shape of substantial investment by Amstel and Henninger Beer, Heild Brothers of England and Animal Field with Profina. The public sector's role was limited to equity participation in large-scale joint ventures and the conducting of feasibility studies. An Industrial Development Centre was established - mainly staffed by UNIDO and ILO - and it conducted courses in business management, industrial accounting, time and motion studies, etc. In 1965 the Jordan Industrial Development Bank was established with the purpose of providing medium- and long-term loans to private industrial enterprises and also to undertake equity participation where appropriate. In 1967 an Encouragement of Investment Law was adopted. This replaced the 1955 legislation. "This new legislation gave more generous exemptions ... and provided for the expatriation of foreign investment .... (It extend(ed) the income tax holdings to local industrial and other projects so that

these can attract foreign investment which the 1955 legislation failed to achieve."[81] The First Plan period also saw the establishment of a Standards Bureau within the Ministry of National Economy and the elevation of the Industrial Section within the Ministry to a Directorate level.

In the aftermath of the June War industrial development was significantly affected. In 1967 labour migration started on a large scale and skilled shortages started to emerge as major constraints on Jordan's industrial development. This was coupled with a crisis of confidence in the national economy due to the large-scale influx of the Palestinian refugees, the occupation of the West Bank and the domestic dislocations generated by the War. The Government estimated that total loss in the industrial sector during the period 1967-1970 amounted to JD 2 million.[82] During this period the Government concentrated its efforts on restoring the infrastructure and the productive capacity that had been destroyed.

In 1973 the Three-Year Development Plan was inaugurated. Emphasis was placed on the execution of industrial projects, the feasibility reports for which had already been prepared in the preceeding periods. The bulk of the investment in the mining and manufacturing was expected to originate in the private sector and high levels of concession were granted. The response of the private sector was encouraging and industrial production grew rapidly, but rapid increases in the prices of imported raw materials and capital equipment coupled with a significant rise in industrial wage rates created problems. The Government was particularly concerned during this period with reducing the level of underutilization of capacity which ranged between 25 and 35 per cent of installed machinery in 1971 [83] and with creating 9.000 new job opportunities in industry during the period.[84] Emphasis was also placed on the rapid expansion of industrial exports.

In order to achieve these objectives the Government set up an Industrial Development Corporation in 1973 with a view to expediting industrialization activities within the Kingdom. It amended the 1967 Encouragement of Industry Law of 1967 to provide additional facilities and exemptions to private sector investors. It was designed to encourage the establishment

of public share holding companies and of projects outside the Amman-Zarqa area. The Government also reviewed the existing licensing system with the intention of providing incentives for the undertaking of industrial feasibility studies by the private sector, and the avoidance of duplication of investment in cases where the demand did not justify such proliferation of industrial enterprises. The new industrial licensing system aids the merger of small industrial enterprises and the adoption of production and management techniques which could enhance labour productivity within the industrial sector.

In the Five-Year Plan period (1976-1980) some of these features of the industrial licensing system have been modified: in particular, the Government has considerably relaxed its prohibition regarding duplication of industrial investment. In the first year of the Plan, the number of medium-sized establishments given establishment licences increased by 142 per cent. 85/ This relaxation has been described as a "dramatic change in Government industrialization policy (which has) ... given the industrial sector new momentum and a competitive spirit unprecedented in the history of industrialization of Jordan". 86/ Tariff rates on imported industrial raw materials have been lowered in 1977. Industries established with the explicit intention of exploiting export markets have been automatically granted licenses and new legislation for attracting foreign investment is envisaged. The specific measures taken for the encouragement and re-organization of industry during the 1976-1980 period are summarized below:

1. Confine the functions of the Natural Resource Authority to the exploration of mineral deposits, oil, natural gas and water; conducing related research and preliminary technical studies to determine exploitation possiblities; and design and implementation of irrigation projects in the high lands;
2. Establish, within the Natural Resources Authority, a specialized technical division to explore for oil and natural gas;
3. Establish a committee to re-examine the customs tariff structure with a view to making it more conducive to the establishment of local industries, through the exemption

of primary raw materials from custom duties. This is designed to put local production on an equal footing with similar industrial products imported from countries which enjoy special exemptions either by virtue of economic agreements or of the provisions of the Arab Common Market;

4. Provide incentives to export-oriented industries. Such incentives would call for simplifying procedures for temporary entry of raw materials and for permitting rebates proportionate to exports, calculated on the basis of a formula developed for each industry;
5. Demarcate industrial estates and zones in each of Amman, Zarga, Irbid, Salt, Aqaba and otherregions, and provide these regions with electricity, water and other infrastructural facilities, including housing. Special exemptions will be given to industries which move into such zones;
6. Modify industrial licensing procedures in order to allow industries to be established regardless of duplication; license industries involving less than JD 25 thousand in machinery without requiring feasibility studies and simplify licensing procedures and requirements;
7. Continue the Government practice of taking initiative in regard to the setting-up of productive projects in various fields and participation in their capital;
8. Enforce standard specifications and control procedures with regard to national industrial products;
9. Modify the Encouragement of Investment Law No. 53 of 1972 with a view to:
   (a) Providing additional incentives to export-oriented projects;
   (b) Permitting individual foreign investors to establish industrial export-oriented projects either on their own or through unlimited participation with local capital;

(c) Providing additional privileges and incentives to industries which produce primary and/or intermediate products for use in existing industries;

(d) Giving greater incentives to public share-holding companies;

10. Review the role of the Industrial Development Bank with a view to enhancing its effectiveness in industrial development;

11. Augment the staff of the Amman Chamber of Industry so as to enable it to answer inquiries related to industrial investments;

12. Set up a vocational and handicraft training fund, and encourage the establishment of co-operative societies for handicraftsmen with a view to enabling them to obtain the necessary financing;

13. Exert every effort in the area of Arab industrial co-ordination and co-operate with other Arab countries to implement technically and economically viable joint industrial projects;

14. Hold an industrial fair as soon as possible. 87/

The major projects adopted by the Five-Year Plan in the industrial sector are given below: (also see Table 25)

1. Oil Exploration: In association with Filcon (a United States venture), the Government is undertaking extensive explorations in the Dead Sea, the Jordan Valley and the Northwestern Hills of the East Bank. Filcon and the Government have signed a thirty-year agreement, nine years of which will constitute the exploration stage. Filcon will spend JD 2.7 million during the Five-Year Plan on this project. The Government will contribute a sum of JD 4.6 million (from both domestic budget sources and foreign aid) to oil exploration projects. Besides, a sum of JD 525,000 has been earmarked for prospecting of iron-ore, lead sulphide, copper granite, marble rock and gypsum, etc.

2. Investigation of underground thermal energy: Total cost of this project of geological studies and exploratory drilling in the hot springs area is estimated at JD 300,000 - 25 per cent of which is expected to come from foreign aid sources: specialized consulting firms and UN agencies are to be involved in this project.
3. Natural Resources Authority Workshops: This project aims at re-equipping and modernizing the existing workshops with the aid of specialized consulting firms. Total cost envisaged are JD 465,000 with a foreign aid component of 23.6 per cent.
4. Expansion of phosphate production: The aim is to expand phosphates production to 5.4 million tons annually by 1980. Infrastructural investments, necessary for transportation and marketing of the increased production is to take place in the form of completion of the railway line to Acaba, improvement of road net works between Ma'am and Wadi Yutum and increase of loading capacity at the port of Acaba. Total investment in the expansion of phosphate production is estimated at JD 24 million over the plan period. This investment will be financed by the Jordan Phosphate Mines Co. - a public sector concern, which intends to attract extensive foreign loans for expansion of phosphate production. Expansion of production is no guarantee of expansion of sales revenue, for most of the output is destined for export and world market prices for phosphates have been falling. Thus in 1976-1977 income received from phosphate sales was only 47 per cent of the expected revenue from this sector. [88] In 1978 export earnings from phosphate rose for the first time in three years - to JD 21.2 million from JD 18 million in 1977. [89] Investment in phosphate mining has expanded rapidly throughout the Five-Year Plan period with significant growth in Ma'am and at al Hasa. In 1979 Soviet technical assistance was utilized for examining the feasibility of prospecting for phosphate reserves at Shidiya. [90]

5. Expansion of petroleum refinery: The project is to be undertaken on the basis of collaboration with American and Romanian firms and aims at expanding production from one million metric tons in 1976 to 3.45 million tons by 1979. An investment of JD 39 million is envisaged in the Plan period with a foreign loan and investment contribution amounting to 51.2 per cent of this figure. The local investor is the Jordan Petroleum Refinery Company, a joint venture with minority Government equity participation. The petroleum refinery, unlike the phosphate and fertilizer plants, produces mainly for the home market.
6. Expansion of cement production at Fuheis: This involves an investment of JD 8 million over the period and aims at expanding production by the Jordanian Cement Company from 1.700 to 3.700 tons per day. Production is mainly earmarked for the domestic market. The investment in this project is now expected to bear fruit by 1981 by which year the desired expansion in productive capacity will have materialized.[91/]
7. Fertilizer production: The Jordan Fertilizer Company has been established with equity participation by the Government (26 per cent), the Jordan Phosphate Mines Company, the International Finance Corporation, AGRICO and "Jordanian and Arab individuals and associations" [92/] Most of the output is earmarked for export and a large proportion of raw materials will be imported. Total investment during the Plan period was expected to be JD 61 million - with JD 41 million by foreign loans to the Jordan Fertilizer Company. In 1978 financing for the Aqaba plant was arranged with the IFC and some Arab banks. The main contractor for the plant is Spie Batignolles of Paris and technical advice is to be provided by Mitsu Toatsu of Tokyo. The plant is now schedules to oper in 1980. [93/] Project costs have risen rapidly (in 1977 they were estimated at $ 300 million)[94/] which is the main reason for the delay in project implementation.

Table 25. Summary of Mining and Industry Projects
(JD 000)

	1976	1977	1978	1979	1980	Total
Oil exploration	500	880	1,000	1,000	1,250	4,630
General Prospecting	125	100	100	100	100	525
Investigation of Underground Thermal Energy	75	75	100	25	25	300
Natural Resources Authority Workshops	30	135	150	80	70	465
Expansion of Phosphate Production	10,000	5,000	5,000	3,000	1,000	24,000
Expansion of Petroleum Refinery	16,000	17,000	6,000	-	-	39,000
Expansion of Cement Production of Fuheis	4,000	4,000	-	-	-	8,000
Chemical Fertilizer Industry	7,000	27,000	24,000	3,000	-	61,000
Potash Extraction	1,500	2,500	3,000	8,000	10,000	25,000
Cement Industry in Southern Jordan	300	1,000	4,000	8,000	8,000	21,300
Textile Factory at Zerqa	1,000	-	1,000	1,000	-	3,000
Copper Production	100	900	2,000	2,000	-	5,000
Industrial Estates	100	500	500	500	-	1,600
Standard Specifications	60	140	100	-	-	300
Other Private Sector Investments in Mining and Industry	6,000	6,500	7,000	7,500	8,000	35,000
Total	46,790	65,730	53,950	34,205	28,445	229,120

Source: Five Year Plan, p. 355

8. Potash Extraction: The potash project described as "the biggest Jordanian industrial venture" 25/ is expected to involve a total investment of $ 450 million. It is to be run by the Arab Potash Company and to go into production in 1982. The Government's equity share in the company is 51 per cent. Engineering and construction supervision is in the hands of the Jacobs Group of California. Besides the Jordanian Government the other major financers are the Arab Mining Company (which holds 25 per cent of the shares) and the Jeddah Islamic Development Bank (which owns 7 per cent). Loans have been arranged from USAID, Libya, Iraq, Kuwait and the OPEC Special Fund. Production is mainly aimed at the Arab export market and project is expected to contribute significantly towards an expansion in industrial employment. In granting a $ 35 million loan for this project (for a 13 year period with a 6 months grace and 7.9 per cent) the World Bank noted that the implementation of "the project will have a major impact on the Jordanian economy". 26/

Among other projects indicated by the Plan are the expansion of a textile factory at Zarga which was established in co-operation with Taiwanese businessmen in 1974. This will involve an investment of about JD 3 million during the Plan period. JD 5 million are allocated for the establishment of a copper production plant to be run by the Natural Resources Authority in association with a French firm. JD 1.6 million are allocated for the establishment of industrial estates under the management of the Industrial Development Bank and JD 300,000 have been earmarked for the completion of building and laboratories of the Deparment of Standard Specifications and "to conclude an agreement with UNIDO for the operation of these laboratories and to enforcement of Jordanian standard specifications". 27/ A summary of the projects to be undertaken in the mining and manufacturing sectors during the Five-Year Plan period is given in Table 25.

Investment in other projects are according to the Plan to be undertaken by the private sector. This is to amount to JD 35 million over the plan period (i.e. 15.27 per cent of total industrial invest-

ment). This JD 35 million will be distributed between:

(a) Expansion of established medium sized industries employing 10 to 100 people in the textile, tanning, marble, food, paper, plastics, pharmaceuticals, iron and cigarettes industries. Investment will amount to JD 14 million.

(b) Establishment of new medium sized industries in foodstuffs, bromine, magnesium, savalime, detergents, clay brick, glass, cement sacks, metal transforming sector, etc. Investment here will amount to JD 12 million, a significant proportion of which is to go towards the undertaking of feasibility studies for mineral exploration.

(c) Establishment and renovation of small-scale and handicraft industries (mainly maintenance and service workshop). Investment in this sector is expected to equal JD 9 million (0.004 per cent of total investment in the industrial sector in the Plan period). The small-scale industries are not likely to attract a very large proportion of the loans from the Industrial Development Bank.(JD 16 million during the Plan period): most of these are likely to go to the modernized capital-intensive medium-sized industries and plants.

The overall conclusion is thus clearly that the Government's present industrial strategy is to foster the development of the large-scale, mineral resource-based capital-intensive industries with a view to exploiting Arab and East European export markets. The institutional framework for industrialization that has emerged reflects this strategy. We now turn to a review of this institutional infrastructure.

Institutionalizing industrialization

According to the 1974 Industrial Survey conducted by the Jordan Department of Statistics [28] the industrial sector consists of:

(a) 7000 small-scale establishments employing 10,964 workers (constituting 41 per cent of the total industrial labour force). These establishments employed 1-4 workers each.

(b) 591 establishments employing an industrial labour force of 15,964 (i.e. 59 per cent of the total). 99/

(c) We have also seen from Miner and Associates Survey of Jordanian industry conducted for the year 1971-1972 that 9 per cent of the enterprises in category (b) 100/ could be classified as "large firms" - the average assets of firms in the "non large" category of establishments with 5 or more employees was about 6 per cent of the average assets of enterprises in the "large firm" category in Miner's Sample. The "large firms" accounted for 55 per cent of total labour employed by Jordanian firms with 5 employees or more. 101/ The 30 companies in which the public sector has a holding are to be found within this sector.

The economic organization 102/ of the three sub-sectors varies considerably. The small-scale sector is built around the traditional Arab bazzar and the master craftsman who maintains his position within this market by participation in an informal craftsman's guild with well established traditions and behaviour patterns. The labour force within this sub-sector is usually related to the proprietors by blood and family ties. The business is generally passed on from father to son, but the rate of bankruptcies is high. Part time business and part time employment of labour is common. Use of mechanics is gaining popularity as is the use of electricity as a source of energy. 89 per cent of the Industrial Development Bank (IDB) sample of small-scale industries used electricity as the main source of energy. Under-utilization of capacity is high. "Self servicing" (repairs done by the workers themselves) of machinery is common - although a large group also make use of specialized repair shops. Familiarity with production processes is high so that 85 per cent of the IDB sample stated that they had no difficulty in selecting appropriate machinery.

Although formal vocational training is low, almost the whole work force goes through a period of apprenticeship to the master craftsman. Although the lack of skilled labour is emerging as a serious problem (50 per cent of IDB sample reported that unavailability of appropriate workers was a serious problem) the main cause of this is not worker emigration but rather wages competition among enterprises.

Indebtedness among the small-scale enterprises is high; the main sources of finance are 1) wholesalers; 2) family and friends, and 3) commercial banks. The IDB is a source of credit to only 1 per cent of the enterprises. Of those who need to deal with commercial banks, 30 per cent do not because of the Islamic injunction against thegiving or taking of Ri'ba (interest) - the others because of high interest rates or comlicated procedures. However, getting credit from the banking sector is not seen as a major problem.

Prices are generally determined in this sector on the basis of total cost. Production is undertaken mainly to fulfil customers' orders and the overwhelming majority of production is destined for the domestic market. Direct sales are the main method of marketing. Three fourths of all sales are on a cash basis.

The "formal" industrial sector is organized by the traditional merchant class which emerged as an important economic sector in the organization of colonial trade in the days of the British protectorate over Palestine. According to the 1974 survey the "typical" firm in this sector employed 22 people[103] and had fixed assets amounting to JD 113,604.[104] For Miner's sample, estimated under-utilization of capacity in this sector was very high - no less than 24 per cent of existing capacity was unutilized.[105] The main reason given by the large firms for this vast capacity under-utilization was "lack of sufficient domestic demand"[106]. According to the Miner survey "most firms are over-managed" [107]. A few large firms dominate the industrial sector, however, the "sizes of the largest manufacturing firms are not far above the lowest levels of size

efficiency."[108] Although no estimates of effective protection rates are available it is undoubtedly true that these industries enjoy very heavy protection. Import of goods which they produce is in most cases permitted only if they are not in a position to satisfy domestic demand.

Many of the firms in this sector are using obsolete technology and equipment and there is a lack of experienced skilled labour and management and skilled repair and maintenance mechanics. They lack export market skills and also have difficulty in negotiating credit and purchase of appropriate technical equipment.[109]

These firms generally have little trouble in obtaining bank finance. Debt/equity ratios are high as is liquidity. Joint ventures and government participation in one form or another is becoming more and more common and the granting of an industrial licenses to a medium-sized firm invariably means acceptance of government's commitment to its survival. The Government has been attempting to induce the medium-sized and large-sized firms to rationalize production process and this has in effect amounted to an encouragement of mergers.

The institutionalization of the public industrial sector has had the aim of fostering modernization and rapid industrial growth. The small-scale and handicraft industries have remained virtually untouched - and although some small steps are being taken to foster their progress the general feeling remains that it is in the development of "modern", "highly efficient" capital intensive project oriented towards vast export markets that Jordan's industrial future lies. The Government has thus approached the task of industrial organization giving the needs of this sector foremost priority.

Since 1953 when it came into existence the Ministry of National Economy has been the nucleus for the evolution and articulation of the Government's macro-economic policies. From the mid-1950s an Industries Section had been established within this ministry. Originally it was staffed by just three officials - an economist, a civil engineer and a cost accountant - and its main function was to appraise industrial projects

and recommend issuance of licenses. 110/ In 1964 the Industrial Development Centre was established also within the Ministry of National Economy. As noted earlier its main purpose was the organization of industrial training and UNIDO experts participated extensively in its work. Since the mid-1960s a standards and specification bureau has also been established under the Ministry. The Five Year Plan is particularly concerned with improving the performance of this bureau as improving the quality of Jordanian manufactures is essential for the penetration of export markets. 111/ A Natural Resources Authority for the exploration of mineral resources and the design, operation and maintenance of irrigation projects has also been in existence for quite some time.

In 1973, the Industrial Development Corporation was set up. All "government ownership rights and subscriptions to capital of existing industrial establishments were (entrusted) to the Corporation" and "to (the Corporation) shall revert the funds and assets of the Industrial Development Centre of the Ministry of National Economy". 112/ A little later further reorganization took place, the Ministry of National Economy was re-named as the Ministry of Industry and Trade (this is the Ministry with which UNIDO now deals) and the Industrial Development Centre ceased to exist. The functions of the IDC were given to the Department of Studies and Investment Promotion within the Ministry of Trade and Industry. This ministry is responsible for the issuance of licenses for the creation of new industrial establishment and the rennovation or expansion of existing ones. The Industries and Trade Minister (along with the Minister of Finance, the Governor of the Central Bank, the President and Secretary General of the National Planning Council, the Presidents of the Chambers of Commerce and Industry, the President of the University of Jordan and the Prime Minister) is a member of the National Planning Council and also of the Council of Economic Security. The Planning Council is encharged with the responsibility of "preparation of the state's long-term plans...

and of the annual implementation projects which shall be approved within the comprehensive planning programmes." [113] A permanent Planning Committee exists within the Ministry of Industry and Trade for co-ordination with the Planning Council.

The central document of industrial legislation is the Encouragement of Investment Law No. 53 of 1972. This law is reproduced in summary form as an appendix to this study. [114]

This law replaced legislation of encouragment of investment of 1955, 1957 and 1967 and parts of it are to be ammended in a proposed draft law according to the Five Year Plan. The ammendments envisage the provision of additional incentive for export oriented industries, to foreign investors, to producers of industrial inputs of existing industries and for the establishment of joint ventures between the public and private sectors. [115]

A key institution established in 1965 for the purpose of providing finance for industrial investors is the Industrial Development Bank of Jordan (IDB). It is jointly owned by the Government and private sector institutions - particularly commercial banks. [116] According to the World Bank "there is no dominant group of private share holders... the Government ... (also) has refrained from (exercising) control". [117] Nine seats on the IDB Board of Directors are for the private sector representatives, three for the Government - the Government representatives are nominees of the Ministry of Trade and Industry, the National Planning Council and the Governor of the Central Bank. Its operations include granting of loans to investors as well as equity participation. Loan operations are considerably larger than equity operations. It has over the period 1965-1976 generally maintained a conservative lending policy and maintained a low debt-equity ratio. [118] It offers loans on a 9 per cent interest charge to small-scale projects. [119] Table 26 classifies its loans according to industrial category, size, duration, nature of project and geographical distribution over the period 1971-1975. There was a fairly narrow dispension of loans within the industrial sector (i.e. excluding tourism). The largest number of loans granted was to companies with assets between JD 20,000 to JD 49,999. The largest share in the total loans granted was of companies with assets in the range JD 100,000 to JD 199,999. Companies in the largets two size

Table 26

INDUSTRIAL DEVELOPMENT BANK of JORDAN

Classification of Approved Loans: 1965-75
(amounts in JD 000's)

	1965 - 1971		1972		1973		1974		1975		1965 - 1975	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Industrial Category												
Food, beverage & tobacco	23	977.0	6	255.0	8	314.0	1	60.0	7	723.0	45	2,329.0
Textiles & leather	20	388.0	2	11.5	4	193.0	8	364.5	4	87.6	38	1,044.6
Wood & wood products	7	37.0	-	-	-	-	-	-	2	15.5	9	52.5
Paper & paper products, including printing	4	222.5	2	30.0	1	75.0	2	280.0	1	150.0	10	757.5
Chemical, rubber and plastic products	18	402.6	5	60.0	10	539.0	2	10.0	15	906.5	50	1,917.5
Non-metallic mineral products	7	143.5	3	21.5	4	183.8	2	100.0	3	194.0	19	642.8
Basic metal industries	2	300.0	-	-	-	-	2	470.0	-	-	4	770.0
Metal products, machinery & equipment	34	494.3	3	57.5	8	114.5	8	200.0	4	136.0	57	1,002.3
Tourism	24	567.4	6	505.0	4	48.0	9	380.0	2	68.0	45	1,568.4
Others	2	18.5	-	-	-	-	3	70.5	3	156.0	8	245.0
Total	141	3,550.2	27	940.5	39	1,467.3	37	1,935.0	41	2,436.6	285	10,329.6
Size												
Below JD 1,000	-	-	-	-	-	-	-	-	-	-	-	-
JD 1,000 - 2,999	10	20.1	2	3.0	8	15.3	4	8.0	4	8.1	28	54.5
JD 3,000 - 4,999	20	67.6	1	3.0	1	4.0	3	11.0	4	13.0	29	98.6
JD 5,000 - 9,999	24	151.0	3	19.5	5	30.0	8	51.0	3	24.5	43	276.0
JD10,000 - 19,999	32	379.5	7	80.0	7	88.0	3	30.0	4	61.0	53	638.5
JD20,000 - 49,999	32	895.0	8	215.0	7	220.0	7	235.0	9	250.0	63	1,815.0
JD50,000 - 99,999	12	777.0	4	210.0	6	365.0	6	370.0	7	420.0	35	2,142.0
JD100,000- 199,999	10	1,060.0	1	160.0	5	745.0	3	430.0	7	930.0	26	3,325.0
JD200,000 and over	1	200.0	1	250.0	-	-	3	800.0	3	730.0	8	1,980.0
Total	141	3,550.2	27	940.5	39	1,467.3	37	1,935.0	41	2,436.6	285	10,329.6
Duration 1/												
Up to 1 year	-	-	-	-	-	-	-	-	-	-	-	-
From 1 - 3 years	1	1.0	-	-	-	-	-	-	-	-	1	1.0
From 3 - 5 years	42	860.5	10	173.5	12	95.3	5	12.0	6	15.1	75	1,136.4
From 5 - 7 years	32	289.7	10	247.0	20	852.0	29	1,393.0	27	1,231.5	118	4,013.2
From 7 -10 years	20	431.5	2	50.0	6	370.0	3	530.0	8	1,190.0	39	2,571.5
From 10-12 years	36	1,260.0	5	470.0	-	-	-	-	-	-	41	1,979.0
From 12-15 years	6	283.5	-	-	1	150.0	-	-	-	-	7	433.5
15 years and over	4	204.0	-	-	-	-	-	-	-	-	4	204.0
Total	141	3,550.2	27	940.5	39	1,467.3	37	1,935.0	41	2,436.6	285	10,329.6
Nature of Project												
New Enterprises	20	667.4	6	325.0	18	1,053.8	20	1,268.0	20	1,570.0	84	4,884.2
Expansions	81	1,968.0	12	443.5	13	326.5	17	667.0	21	866.6	144	4,271.6
Raw Materials	40	914.8	9	172.0	8	87.0	-	-	-	-	57	1,173.8
Total	141	3,550.2	27	940.5	39	1,467.3	37	1,935.0	41	2,436.6	285	10,329.6
Geographical Distribution												
Amman	102	1,810.3	21	814.0	29	899.3	28	818.5	26	951.6	206	5,293.9
Zerka & Rusaifah	16	911.0	3	31.5	8	486.0	4	800.0	10	1,055.0	41	3,283.5
Aqaba	3	170.0	-	-	-	-	1	25.0	-	-	4	195.0
Al-Salt	4	267.0	-	-	1	80.0	1	1.5	2	240.0	8	588.5
Irbed	-	-	-	-	1	2.0	-	-	2	170.0	3	172.0
Suweileh	-	-	1	20.0	-	-	1	200.0	1	20.0	3	240.0
Al-Mafrak	-	-	1	60.0	-	-	-	-	-	-	1	60.0
Madeba	-	-	-	-	-	-	1	40.0	-	-	1	40.0
Beit Jala	1	5.0	-	-	-	-	-	-	-	-	1	5.0
Dead Sea	-	-	1	15.0	-	-	1	50.0	-	-	2	65.0
West Bank 2/	15	386.7	-	-	-	-	-	-	-	-	15	386.7
Total	141	3,550.2	27	940.5	39	1,467.3	37	1,935.0	41	2,436.6	285	10,329.6

1/ Excludes grace period which averages about 1.5 years.
2/ All of these were made prior to 1967; 10 in Jerusalem, 2 in Bethlehem and 1 each in Nablus, Hebron and Ramallah.

Source: IBRD. Report No. 1018-JO, Annex 14.

categories received 51 per cent of IDB's total loans over the period 1971-1975. Firms within the lowest two size categories received only 1.6 per cent of total loans granted by IDB. Geographic concentration of loans was also significant. Most of the loans were of medium-term duration and they were approximately evenly divided between projects for expansion of existing projects and projects for the undertaking of new ventures.

IDB's mainly cautious and rather conservative approach to industrial financing has made it basically an institution geared to meeting the credit needs of the medium-sized modern establishment. There has been awareness of the needs of the traditional small-scale industries and since 1975 IDB has established an experimental programme for providing finance to this sector. A useful survey of the characteristics and financial requirements of this group of industries has been published in 1977 [120] and a modest expansion in the small-scale and handicraft programme is envisaged.

The incorporation of the traditional, small-scale sector in Jordanian industrial development strategy cannot be achieved solely by the provision of finance and credit. The peculiar significance of this sector lies in the fact that it constitutes the largest pool of entrepreneurial ability within the Jordanian economy. A wastage of this entrepreneurial ability constitutes a depletion of a valuable industrial asset. In particular as the UNIDO survey on Jordanian Industrial Development warns "Encouraging the merger of small competing firms ... often (leads) to disappointing results. The small to medium-sized firms which are the most likely candidate for consolidation [121] are in most part managed by the owner ... The entrepreneurial genius and drive needed to found and manage an industrial enterprises, however, small, are seldom compatable with the same characteristics in another enterprises." [122] The search for industrial efficiency and economies of scale must not be entirely at the expense of indigenous entrepreneurial ability. A conscious attempt must be made to avoid forcing the informal sector entrepreneur into becoming a semi-skilled labourer or a migrant to the Gulf. In order to preserve the local entrepreneurial ability there is a need in particular to experiment with industrial property forms - with the establishment of an industrial co-operative movement for example. There is a need for the creation of a set of semi-public industrial institutions which mobilize and develop local entrepreneurial talent for integrating rural and urban development and for

making a contribution towards a wider dispersion of the benefits of industrial growth. Both of these are important objectives of the industrial development strategy contained within the Five-Year Plan. [123] But the organizational reforms suggested in the Plan [124] cannot be regarded as sufficient for fostering local entrepreneurial ability in order to achieve these objectives. A reorganization of the traditional industrial sector is also desirable for the reason that growth in its production is less likely to generate import demand and is thus likely to contribute towards a reduction of Jordan's trade deficit.

Chapter V

INDUSTRIALIZATION PROSPECTS AND UNIDO'S ROLE

Prospects of industrialization

Table 27 compares the level of industrialization achieved in Jordan with that of other developing countries.

Table 27. Comparative Levels of Industrialization [a/]

	Jordan	Syria	West Asia [b/]	All LDCs [c/]
1960				
1. Share of industry in GDP	7.51	18.53	25.64	20.51
2. MVA as a percentage of GDP	5.72	17.33	12.03	15.47
1970				
1. Share of industry in GDP	11.62	19.65	31.17	25.79
2. MVA as a percentage of GDP	8.44	15.76	15.65	18.47
1976				
1. Share of industry in GDP	27.29	19.83	33.65	27.05
2. MVA as a percentage of GDP	19.88	14.83	16.53	20.27

a/ All values in US $ million at constant 1970 prices. Shares presented as percentages.

b/ Includes Saudi Arabia, Cyprus, Jordan, Turkey, Iraq, Syria.

c/ 87 developing countries for which data were available.

Source: UNIDO Secretariat.

Table 27 clearly indicates the very impressive growth of the industrial and the manufacturing sector in Jordan in comparison with other countries in the regions since 1970. In that year industry's share in Jordanian GDP was 11.67 per cent - as against 31.17 per cent for West Asia, 19.65 per cent for Syria and 25.79 per cent for all developing countries. The contribution of MVA to GDP in Jordan in 1970 was 11.4 per cent - in Syria and West Asia as a whole it was over 15.5 per cent. Moreover, during the 1960 decade industrial development had not been particularly spectacular, the share of industry had expanded from 7.5 per cent in 1960 to 11.4 per cent in 1970. In West Asia during this period the share of industry in GDP had gone up from 20.5 per cent to 25.8 per cent. The increase in the MVA share in Jordan was from 5.7 per cent in 1960 to 8.4 per cent in 1970. In West Asia as a whole the MVA share of GDP had increased from 12 per cent to 15.6 per cent.

The period 1970-1976 saw a major change in the structure of the Jordanian economy; the share of industry in GDP increased to 27.3 per cent by 1976 and the share of MVA increased from 8.4 per cent to 19.9 per cent during this period. Growth rates achieved in the manufacturing sector during 1973-1976 exceeded the expectations of the Three Year Plan and by 1976, the MVA share of Jordanian GDP was higher than the corresponding ratio for West Asian countries as a whole. If the two indicators of Table 27 can be taken as measures of the level of industrialization, then industrial expansion in Jordan can be said to have overtaken that in Syria during this period and closely approached the average level of industrialization in West Asia.

On the basis of historical growth performance Azar has made projections of likely changes in the structure of Jordanian GDP for the period 1976 to 2000. He forecasts an increase in the contribution of mining and manufacturing to rise to 25.6 per cent by the year 2000. [125] Azar's calculations are at 1970 constant prices and are at variance with the Five Year Plan's estimates that the mining and

manufacturing sector will contribute 28.3 per cent of GDP by 1980. The Plan's calculations are at 1975 constant prices. [126] As we have seen the Plan expects the mining and manufacturing sector to grow at a rate of 26.4 per cent over the 1976-1980 period. The Plan, however, does not give an intrasectoral growth forecast. Azar does give such estimates. The assumptions on which his estimates are based are:

1. All values have been deflated to 1970 prices in order to avoid the problem of price escalations and to measure growth in real terms.

2. Assumed growth rates have been assigned to each of the sub-sectors in the mining and manufacturing sector. These anticipated growth rates have been based on:

   a) Expected growth rates for the period 1976-1980 and these have been computed on the basis of an evaluation of the implementation of the Five Year Development Plan, 1976-1980.

   b) Expectations of future development based on reports of the various authorities concerned, especially those published by the Natural Resources Authority concerning the proven deposits of natural resources, their locations, quantities, qualities, and the possibility of their exploitation.

3. Computed growth rates shown in Table 28 for each sub-sector, taking the 1976 data (the first year of the Five Year Development Plan, 1976-1980) as a starting point. [127]

Table 29 gives the magnitude of value produced in the different branches of the mining and manufacturing sector during the 1976-2000 period. Azar expects that "the financial resources allocated for the projects (in the mining and manufacturing sector) included in the Plan are expected to fall short of the anticipated real costs of these projects ... Escalation (of cost) may be in the magnitude of JD 137 million. [128] Therefore his growth rate projections are more modest

Table 28. Assumed Rates of Growth for Projecting Value Added in the Mining and Manufacturing Sector
(Percent)

Industry	1980	1985	1990	1995	2000
Mining and quarrying	11	10	10	10	10
Food manufacturing	6	6	6	6	6
Alcoholic beverages	7	5	5	5	5
Soft drinks	7	6	6	6	6
Tobacco	5	5	5	5	5
Textiles	9	8	6	5	5
Clothing	10	9	8	7	6
Leather and leather products	6	6	6	5	5
Footwear	8	8	7	7	6
Wood and products	8	6	5	5	5
Paper and products	8	7	5	5	5
Printing and publishing	7	8	8	7	7
Chemical industry	8	20	20	20	8
Petroleum refinery	20	7	12	7	7
Rubber and products	4	4	4	4	4
Plastic and products	7	7	7	6	6
Non-metallic minerals	10	12	10	10	9
Basic metal products	10	10	10	10	8
Electric machinery	10	10	9	8	8
Transport equipment	6	7	7	6	5
Miscellaneous	7	7	6	6	5

Source: Azar: Long-term Prospects of Industrial Development in Jordan, p. 139

Table 29. Value Added in Mining and Manufacturing, at 1970 Prices

(JD million)

	1976	1980	1985	1990	1995	2000
Mining and quarrying	6.82	14.63	29.82	46.75	73.16	114.63
Food manufacturing	4.69	5.60	7.49	10.08	13.44	17.90
Alcoholic beverages	0.21	0.28	0.35	0.42	0.49	0.56
Soft drinks	0.35	0.42	0.56	0.70	0.91	1.26
Tobacco	1.68	1.30	2.31	2.94	3.71	4.75
Textiles	2.59	3.08	4.34	6.09	8.54	11.41
Clothing	1.82	2.03	3.15	4.62	6.44	8.61
Leather and products	0.91	0.98	1.33	1.75	2.24	2.87
Footwear	0.21	0.28	0.42	0.63	0.91	1.19
Wood and wood products	1.05	1.33	1.75	2.24	2.87	3.71
Paper and paper products	0.35	0.42	0.56	0.70	0.91	1.19
Printing and publishing	0.56	0.63	0.91	1.33	1.89	2.66
Chemical industry	1.19	2.45	6.09	8.96	12.53	17.64
Petroleum refinery	6.16	7.42	10.36	15.96	22.40	31.43
Rubber and products	-	-	0.21	0.28	0.35	0.42
Plastic and products	0.84	0.98	1.40	1.96	2.59	3.43
Non-metallic minerals	2.73	3.92	6.93	11.20	17.99	27.72
Basic metal products	4.69	6.36	11.06	17.85	28.70	42.14
Electric machinery	0.63	0.77	1.26	1.96	2.87	4.20
Transport equipment	0.70	0.77	1.05	1.47	1.96	2.52
Miscellaneous	0.35	0.42	0.56	0.77	0.98	1.26
Total	36.5	53.2	80.2	128.40	197.30	288.40

Source: Azar: Long-term Prospects of Industrial Development in Jordan, p. 140.

- perhaps more realistic - than the growth rate projections implicit in the Plan document.

According to the Azar projections the highest growth rates are to be expected in the following branches of industry:

1. Chemical industry
2. Petroleum refining
3. Mining and quarrying
4. Non-metallic minerals
5. Basic metal products
6. Electrical machinery.

Low rates of growth are to be expected in the tobacco industry, the rubber products industry, food manufacturing, leather products and wood products. In 1976, the former group of industries generated 60.8 per cent of total value added produced in the mining and manufacturing sector. By 1980 their contribution is expected to rise to 67 per cent of mining and manufacturing value added and by 2000 these industries are expected to produce 82.4 per cent of value added in this sector. As against this the share of food manufactures, tobacco, rubber, leather and wood is expected to decline from 28.8 per cent of total value added in 1976 to 18.2 per cent in 1980 and to 10.3 per cent by 2000. In other words, given the existing government industrialization strategy there is likely to be a major restructuring within Jordanian industry involving a massive expansion of the capital intensive mineral resource based industries and a relative contraction of the traditional consumer goods industries. Large-scale public sector investment in the former group has accelerated their growth and this of course also attracts substantial investment from the private sector. Within the consumer goods industry the only one expected to experience large rates of growth during the 1976 - 2000 period is the textile industry; in this industry there is considerable foreign investment commitment.

The potential for rapid development of the mineral based industries certainly exists. Besides the large quantities of phosphates there is

evidence for the existence of substantial iron ore deposits at Rasal-Waq, lead sulphate and copper in the Wadi Essal, tin in Ferian, granite in the Wadi Araba, marbel rock and gypsum at Aqba and Azraq. [129] Similarly in the early years of the Five Year Plan period medium-sized investment in intermediate goods industry expanded more rapidly than had been expected by the Plan. There is expansion in the manufacturing of matches, detergents, medicines, asbestos pipes, pre-fabricated houses and construction materials. In 1977, there was evidence of significant expansion in the food processing and footwear industries. [130] There is evidence of a definite shift towards increased mechanization in most of these industries.

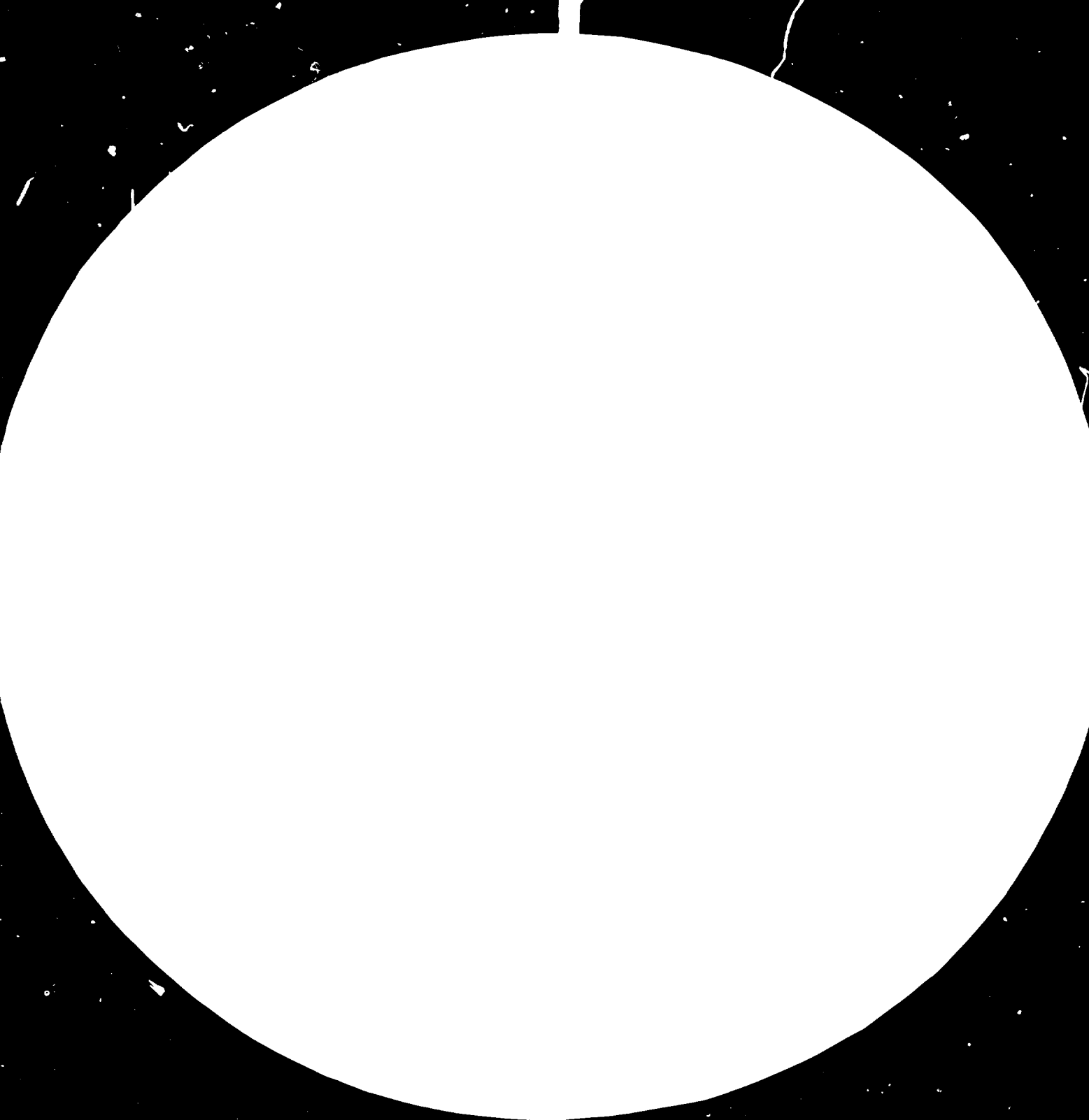
The move towards increased mechanization is not an answer to the labour shortage that Jordan has been experiencing since the beginning of the oil boom; for the labour that is scarce and unavailable is skilled labour and the need for skilled labour increases with the growth in mechanization. In the early 1970s unemployment rates approached 15 per cent in Jordan. [131] Today unemployment is less than 2.5 per cent. Yet the rural migration to the cities continues and unskilled labourers are not in short supply as the falling real wage levels in Jordan indicate. Moreover, unskilled immigrant workers are also readily available from Egypt, Yemen, Pakistan and South Korea. There are also firm indications that the outflow of Jordanians is slowing down. "The rate of emigration of 20,000 Jordanians workers a year during 1974-1977 has fallen to 10,000 workers (by 1979)". [132] Thus an increase in the use of labour saving technology is not a sufficient answer to the peculiar problem of imbalance within the labour market that Jordan has been experiencing.

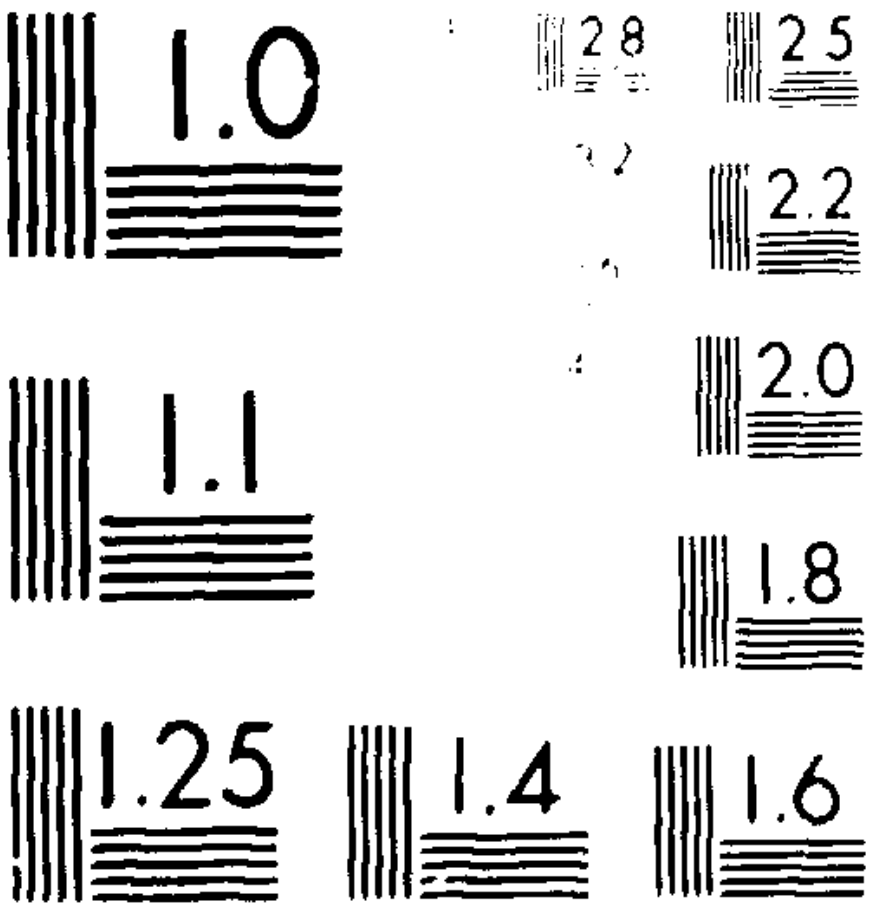
Another problem not likely to be significantly effected by this investment choice is Jordan's increased dependence on imports of foreign goods and foreign finance. Azar anticipates that the ratio of expenditure on consumption and domestic capital formation to GDP is likely to fall from 126 per cent in 1976 to 118 per cent by 1980, [133] but as he himself admits [134]

planned investment outlays in the 1976-80 period did not correctly estimate inflationary pressure and cost escalations are likely to push up the trade deficit figures. The expansion of the mineral based industries as well as the medium-sized capital intensive industries may substantially increase export earnings but there are also likely to generate a significant import demand due to the need for foreign raw material and technology and the repatriation of profits, dividends and interest charges on foreign investment and borrowing. The government will have to concern itself with exploring import substitution potential within the industrial sector. Given the small domestic market an effective import substitution strategy must be developed within the context of a policy of regional harmonization of investment and production plans. A regional approach may also be most useful in regulating the inflow and outflow of immigrant workers to and from Jordan.

Jordanian participation in regional co-operation ventures

Jordan has been an enthusiastic supporter of regional co-operation ventures on a bilateral and multilateral basis in the Middle East. It has been a member of the Arab Common Market since the forming of this organization - the other members are Egypt, [135] Iraq, Sudan, Yemen and Kuwait. Exports to the Arab Common Market have increased by an annual average rate of 24 per cent over the period 1971-1975 and imports have increased at a rate of 20 per cent over the same period. The rate of growth of Jordanian exports as a whole over this period was 59.3 per cent [136] and imports rose by 33.05 per cent over this period. Exports to the Arab Common Market accounted for 46.4 per cent of all Jordanian exports in 1971 and for 23.5 per cent of total Jordanian exports and imports from the Arab Common Market as a proportion of total Jordanian imports fell from 9.2 per cent in 1971 to 6.03 per cent in 1975. In contrast imports from the other Asian Arab States (Lebanon, Saudi Arabia, Bahrain, Qatar) as a proportion of total Jordanian imports rose from 12.2 per cent to 13.6 per cent over this period - despite the fact that until 1975 Jordan was importing oil on concessional terms. [137]




1.0
2.8
2.5
2.2
1.1
2.0
1.8
1.25
1.4
1.6

It may be concluded therefore that in the first half of the 1970s trade expansion with the ACM countries has not been significant. These trends have continued for 1978; the Azar report notes that: "though Jordan is a member of the Arab Common Market such an arrangement has yet to help in developing export markets (particularly) ... for its manufactured products." 138/ The Arab oil rich countries are an increasingly important source of budget support and development loans. In 1971 Arab funds constituted 51 per cent of total foreign budgetary support to Jordan. In 1975 they represented 81.5 per cent of budgetary support. 139/ Over the period 1971-75 Arab budgetary support increased at an annual average rate of 27.3 per cent, and all the evidence seems to be that the tempo has been maintained, even increased, in the subsequent years.140/ Arab public and private sector investments in Jordan are also increasing at a very rapid rate. No figures are available but the Five Year Plan clearly expects large inflows of petrofunds into its major mineral based projects and this expectation has been largely realized by Arab commitment ot the Potash project and the expansion of phosphate production. The Arab Mining Company has played a major role in financing the former and the Kuwait Fund for Economic Development and the Abu Dhabi Fund for Economic Development have made large contributions to expansion of phosphate production. 141/ The very generous concessions given in the revised industrial legislation are clearly meant primarily to promote inflow of private funds. So far, however, most Arab investment is of a public sector character: investors being either single Arab governments (and these include Syria, Libya and Iraq) or Arab intergovernmental organizations (such as the Arab Mining Company, the Arab International Bank and the Jeddah Islamic Development Bank, etc.).

Of increasing importance is the growing programme of economic cooperation and integration with Syria. Since the small beginnings of 1975, this programme has blossomed out into a full scale attempt at policy harmonization in many (if not most) spheres of the economy. The Jordanian-Syria higher Committee for Economic and Political Integration has had regular sessions since 1975. At the Eighth Session in August 1978, the Committee session, which was jointly chaired by the Prime Ministers of

the two countries agreed to abolish import and export duties between the two countries. In 1977, the two countries agreed to set up industrial tax free zone situated between the villages of Jalze and Naseeb on the Syrian-Jordanian border. The development of this free zone will, it is hoped, attract foreign companies to invest in Syria and Jordan. Infrastructural investment in the free zone is proceeding rapidly. In July 1978, agreement was reached to allocate US$ 4.3 million for this area. In 1978, Syria and Jordan agreed to establish a joint industrial holding company which will act as an umbrella group for the supervision of a number of manufacturing plants which are to be established over the next five years. The new company will be particularly interested in seeking joint ventures with West European and American multinationals. In 1978, decision was also reached to draw up a comprehensive plan for co-operation in agricultural production and trade. Co-operation in the communication and transportation sector is now well established. The Jordanian-Syrian Land Transport Company had an annual turnover of about S 10 million in 1978 and expects substantial expansion as a result of Saudi Arabian interest in acquiring equity participation within this company. The Jordanian-Syrian Maritime Company is also growing rapidly. Progress has also been made in the establishment of a joint electricity grid system linking Jordan and Syrian.

In 1978, the Syria-Jordan Bank was established with 50-50 participation, a fixed capital of $ 6.7 million, with headquarters at Amman and a branch at Damascus. This is a commercial bank with a special responsibility of financing joint ventures. It shows interest in providing finance for the 100,000 tons a year white cement plant owned by the Jordan-Syrian Company for Industry.[142/] Trade with Syria has been expanding rapidly and prospects of greater regional integration have been created by the 1978 re-approachment between Syria and Iraq. Increased economic integration within this region can be of great benefit to all three partners.

The Lima strategy and UNIDO's role in Jordanian industrialization

UNIDO's main involvement in Jordanian industrialization is through participation in the following projects:

1. DP/JOR/77022: Assistance to Industrial Testing and Quality Control Laboratories.

The purpose of this project is to install laboratory equipment, to facilitate, to organize and to operate the Industrial Control and Quality Control Laboratories (ITAQCL); to organize the proper relationship between ICTQL and testing facilities in Jordan; to enable the enforcement of the Precious Metal Law No. 10/1975; to organize and operate an information centre for the dissemination of technical information relating to standard specifications, quality control, certification marking, industrial testing and legal metrology; to train national counterparts on modern techniques of industrial testing and quality control.

2. SI/JOR/79/80: Assistance to the Building Material Research Centre

The purpose of this project is to assist the Building Materials Research Centre in preparing its plans for low cost forecast housing and an evaluation of the performance of the Centre in this field. The project will also offer technical advise and low cost housing to the staff of the centre.

3. SI/JOR/78/805: Assistance to the Cement Factories Company

The purpose is to assist and advice in planning and implementation of improvements in the cement industry production process.

4. SI/JOR/78/802: Assistance to the Ceramic Industry

The purpose is to provide assistance to the Jordan Ceramic Co. Ltd. Amman in production technology, production planning, cost accounting and marketing and to train local staff in these areas.

5. SI/JOR/78/803: Assistance in the Benefication and Industrial Application of Bentonite

The purpose is to carry out an assessment of the local bentonite resources and to develop an appropriate processing technology and marketing strategy for the products of this industry.

6. TD/JOR/79/001: Development and joint support of certain, technical and marketing facilities by three major industrial mining projects in Jordan.[143]

UNIDO's involvement in the industrialization process of the developing countries must be in accordance with the strategy laid down in the plan adopted at Lima in 1975. This Plan stresses the importance of linking industrial development to growth and transformation within the agricultural sector - a 4 per cent annual rate of growth of agricultural output is essential if the Lima target is to be met by year 2000.[144] It envisages industrialization policy to be an instrument for reducing the income and productivity gap between different sections of society and different groups of workers within developing countries. It emphasises the need for increasing the industrial sector's contribution towards the absorbtion for the unemployed and underemployed people and advocates that the technology of production within the industrial sector should be adopted to suit the factor endowment of the country concerned. Rural industrialization projects are given high priority as a useful mechanism for a wider dispersion of income generated by the industrialization process and also as a contributant towards increasing participation of the mass of the population in the industrialization process. The Lima Plan of Action argues that if industrial development is to serve as a means not just for accelerating the rate of economic growth but for improving the quality of life of the majority of the people by fostering a wider dispersion of the fruits of economic growth, then the governments of the developing countries will have to play a key role in planning industrial development and building institutions for the organization and the sustainence of the industrial sector. It is sometimes believed that Governments have an important role to play in the industrial development of the country concerned only if it opts for the import substitution industrialization strategy. This as Bela Kader

has argued is an erroneous view. [145] The role of the state is equally vital if the country seeks penetration into world export markets as the case of South Korea and Taiwan amply demonstrates. If an export promotion strategy of industrialization is adopted the Government's ability to adopt the national banking system, to formulate an appropriate foreign exchange rate policy, to finance export promotion programmes, to co-ordinate capital imports with restructuring within the industrial sector and to skillfully participate in foreign economic negotiations are absolutely vital for its success. The Lima Plan therefore advocates that whatever the strategy of industrialization selected the governments of the developing countries must have at their disposal the means for its effective articulation. They must exercise overall control over the industrial processes and over the natural resources which the country possesses.

The Lima Plan recognizes the important role that trade can play as a stimulant of industrial expansion. It, therefore, calls for an expansion of manufactured exports from developing countries - particularly of trade in manufactures among developing countries themselves. It sees this expansion as an effective engine for regional integration among developing countries and for a dispersion of the benefits of industrial growth. Such integration will also require intergovernamental agreements on industrial investments. As far as the developed countries are concerned emphasis must be placed upon exploring possibilities for the redeployment of industries to the Third World. Among the developing countries the Lima Plan implies that agreement should be reached on achieving a regional balance in the development of industry. There may for example be a planned allocation of technology intensive industries to the resource rich countries and of light consumer goods industries to developing countries with modest resource bases. The Lima Plan calls for the identification and development of "integration industries" which can promote strong regional linkages and foster economic complementarity. [146]

UNIDO ought to attempt to relate its involvement in the Jordanian industrialization effort in the context of the strategy outlined in the previous paragraphs. We have seen that Jordan's industrial development has made impressive progress particularly since the early 1970s. The resource based industrialization strategy chosen has created significant

dynamism within the economy and within the industrial sector in particular. A number of problems associated with this type of industrial policy have, however, emerged. The Jordanian economy remains highly dependent on outside forces. Its need for external assistance has not been significantly reduced over the Five Year Plan period. The remittances of Jordanian expatriates are also of great importance and the dilemma is that to reduce the flow of workers while relieving the skill shortages will lead to a major reduction in the availability of investment funds. There is a great deal of uncertainty above the disbursement of foreign aid and loans - disbursements do not always match commitments. Large capital requirements are necessitated by the industrialization strategy which emphases the undertaking of huge capital intensive projects. Infrastructural developments to sustain these projects have also to be correspondingly large - thus more than $ 200 million has been pledged for the Magarin Dam from US aid during the period 1979-81.[147] The large-scale development projects particularly in the industrial sector create difficult problems of policy implication and execution for an over-stretched state bureaucracy - thus during the Five Year Plan there have been gaps in policy implementation which will have an effect on growth realized within the sector during this period. According to a study of the Royal Scientific Society "two thirds of the way through the current development plan the main indications are that only about two-thirds of the annual GDP growth rate target of 12 per cent had been met".[148] Moreover, according to the Financial Times there is evidence to show that "imbalances in the regions of the country and between social classes have deteriorated" [149]. There is a heavy concentration in the Amman-Zarqa area. The next development plan which is in the process of formulation is reportedly concerned about regional income differentials. It aims at stopping rural emigration into Amman and in order to diversify economic activity it has evolved a regional strategy on the basis of dividing the country into 5 developing areas. It will also have to tackle the problem of inflation which is causing serious difficulties for workers as well as private sector investors.

In view of these difficulties UNIDO should adopt its programme in Jordan for meeting the following requirements:

1. UNIDO must seek to promote regional industrial integration projects. The external dependence of Jordan is primarily a function of the smallness of the domestic market. There is a need to consciously plan for relating the exploration of the natural resources of Jordan to the development of a wider regional market. The growing economic co-operation between Jordan and Syria and between Syria and Iraq creates the possibility that "integration" industries can be developed within this region and complimentarity can be built into the industrial development potential of these three countries. In both Syria and Iraq more than 50 per cent of the manufacturing value added is produced by the light consumer goods industries. An imaginative programme of regional industrial development can build important complimentarities between the mineral based industries of Jordan, the petroleum based industries of Iraq, the consumer based industries and the large agricultural resource development potential of Syria. UNIDO must seek to offer technical assistance for the identification of projects which have an integrative potential and for their evaluation and location within the region.[150/] This can most fruitfully be done in co-operation of IDCAS. A regional centre for identification and evaluation of regional integrative projects based in Amman or Damascus can be a useful start.

2. Jordan should also be given assistance in the development of its resource based industries. There is a need for a Survey of the world phosphate industry, its characteristics and potential for growth [151/] and for identifying problems related to the redeployment of processing activities from developed to developing countries in this area. The potential benefits of emphasis on processing to Jordan must be clearly identified (in terms of impact of this activity on labour requirements, transport costs, etc.). An attempt may be made to identify Jordan's main technological needs in this area and to improve its capacity to negotiate favourable terms with multinationals that can transfer this technology. In this connection Crown Prince Hassan Bin Talal's proposals

for establishing the Euro-Arab Centre for Appropriate Technology in Amman may be followed up. There is also a need to offer support for Jordanian negotiations with MNCs in connection with issues related to investment, repatriation of profits and divestment, etc.

3. UNIDO can also play a role in attempting to relate the labour migration agreement that Jordan has signed with a number of oil rich countries to investment by these countries within Jordan. Again the central idea for such a scheme was forwarded by Crown Prince Hassan who suggested the creation of an International Labour Compensatory Facility on an international basis. Such a scheme is more likely to be feasible within a regional context and if the "compensation" for labour is related to productive industrial sector investments which integrates the economy within the region concerned. UNIDO can therefore follow up this suggestion by proposing this form of co-ordination between labour outflow and investment inflows in specific projects.[152/]

4. There is also a need to provide project and technical assistance for the development of the small-scale traditional sector enterprises in Jordan. Fostering the development of this sector is important for its growth can create backward and forward linkages within the economy on the one hand and on the other hand it can promote a more equitable distribution of income and wealth. Providing state encouragement to this sector is also essential in order to preserve Jordan's reservoir of indigenous entrepreneurial talent. As we have shown previously import substitution capacity can be created by appropriate Government policy. UNIDO should outline a programme for the development of this sector preferably in collaboration with the Jordanian Industrial Development Bank which is already involved in this field.

Most of UNIDO's existing projects in Jordan are related to the major industrial schemes already underway. UNIDO might also play an important role in suggesting to Jordan an industrial strategy which is in accordance with the Lima Plan and which can allow her to effectively deal with some of the problems that have arisen as a consequence of the implementation of the present industrial strategy.

Notes

1. Azar, W. Long Term Prospects of Industrial Development in Jordan. UNIDO, Fifth Industrial Development Conference of Arab States, Algiers, November 1978, p. 3.
2. Reliable estimates for earlier years are not available.
3. National Planning Council. Five Year Plan 1976-1980, p. 6.
4. Adopted in 1962 as a Five Year Plan, it was modified a year later to accommodate unexpected shortfalls in foreign aid and was approved as a Seven Year Plan to cover the period 1963-1970.
5. Which has been estimated as 1.9 for the period 1954-1961 but as 2.6 for 1966. Five Year Plan, pages 7 and 10.
6. Though a marginal decrease in the trade deficit/GDP ratio did take place (from 39 per cent in 1961 to about 36 per cent in 1966).
7. Central Bank of Jordan. Monthly Statistical Bulletin, May 1974.
8. Five Year Plan, p. 12.
9. For some problems associated with implementation see Royal Scientific Society, Economic Conditions in Jordan, A Report for the First Six Months of 1974, Amman, 1974.
10. All figures in this section unless otherwise specified, are from Five Year Plan 1976-1980, p. 5-22.
11. UNIDO. World Industry since 1960. Progress and Prospects, UN Sales No. E.79.II.B.3, New York, 1979, p. 359.
12. In 1976 Jordan had a population of 2.8 million according to the latest estimates. See Economic Intelligence Unit - Syria, Jordan, Annual Supplement 1978, London, 1978, p. 19 (but 0.9 million live on the West Bank).
13. IBRD. Special Economic Report: Jordan. Evaluation of the Five Year Plan 1976-80, Washington, 1976, Table 1.3.
14. See "Labour Market Dilemma" Financial Times, London, May 25, 1979.
15. IBRD, op. cit., p. 19.
16. Measure 12 in Table 1.
17. Azar calculates that the value of measure 12 in Table 1 was 129.0 in 1954/55, it fell to 114.1 in 1965/66 but rose again to 127.4 in 1975/76. Azar, op. cit., p. 7-8.
18. Cement accounted for 28 per cent of export earnings of manufactures in 1975 but its share in manufactures export earnings fluctuated widely. In 1974 cements' contribution had been as high as 57 per cent of total earnings from manufactures exports.
19. Jordan has agreed to pay market price for crude oil imports from 1975.
20. See IBRD, op. cit., Table 38.
21. 1JD = 3.445 $ (approx.). Since 1975 the JD is pegged to the SDR.
22. IBRD, op. cit., p. 5.
23. Five Year Plan, p. 41.

24. IBRD, op. cit., p. 7.

25. The public sector employs about 40 - 45 per cent of the total labour force.

26. Economist Intelligence Unit, Syria, Jordan, Annual Supplement 1978, p. 25.

27. Marto. An Econometric Money Supply Model for Jordan, Royal Scientific Society, Amman, 1974, p. 46.

28. For an analysis of the sources of monetary expansion in this period see The Economist Realities; Jordan 1976-77, Royal Scientific Society, Amman, 1977, p. 12-14 and p. 17-20.

29. Five Year Plan 1976-80, p. 35.

30. All figures in this section are from Table 1 or from the Five Year Plan unless otherwise specified.

31. Five Year Plan 1976-80, p. 7

32. 1970 was abnormal because of scale civil unrest in Jordan and 1974 was abnormal because it saw accelerated production in response to the Ramadhan War and the problems in Lebanon.

33. Five Year Plan, pages 19 and 33.

34. "Jordan: Manufacturing and Mining", Financial Times, London, 25 May 1978.

35. Note for instance Mitsu Tatsu (Japan's involvement in the technical management of the Aqaba Fertilizer Plant).

36. "Industry in Transition", Financial Times, London, 25 May 1979.

37. In particular the falling price of phosphates since 1975.

38. "Industry in Transition", Financial Times, London, 25 May 1979.

39. Food, beverages, tobacco, textile apparel, leather footwear, furniture and paper.

40. Financial Times, London, 25 May 1979.

41. Five Year Plan, p. 185-189.

42. It is elaborated in the form of an inter-industrial correlation study in the next section.

43. Miner and Assoc. Industrial Survey of Jordan for the United Nations Industrial Development Organization, Chicago, 1973 (3 vols.).

44. Mean and standard deviation.

45. Along with some supplementation.

46. See page 9.

47. Thus for example in the Nigerean manufacturing sector the ratio of imported raw material to total raw material is 0.41 with a standard deviation of 0.29 (Calculated from UNIDO Industrial Development Profile of Nigeria, UNIDO/ICIS.78, 25 July 1978, Table 1, p. 14-15).

48. Other industries with low import content are rubber products (5 per cent), transport equipment (12 per cent) and footwear (14 per cent).

49. It ought to be stressed, however, that difference in investment/gross output ratios between these two groups of industries is not very great. The average investment/output ratio for mining and non-metallic minerals is 1.228, whereas that for petroleum refining and basic metals is 0.825.

50. I.e. small-scale handicraft industries.

51. Azar. Long-Term Prospects of Industrial Development in Jordan. Statistical App., Tables 5 and 11.

52. This has to be qualified by the fact that there is no way of checking the extent to which Azar's estimates are comparable with the estimates given in the Survey conducted by Miner and Associates.

53. Five Year Plan, p. 178.

54. Miner and Associates, op. cit, Tables 25 to 29.

55. On the relationship of industrial development to dualism, see for for example Jorgenstein. "The development of a dual economy", Economic Journal, London, June 1961 and Suttclife. Industrialization in Developing Countries, Oxford, 1972.

56. Azar, op. cit. Statistical Annex, Table 10.

57. Figures are for 1972, Miner and Associates, op. cit, p. 77.

58. Five Year Plan, p. 170.

59. Five Year Plan, p. 171.

60. Jordan's first industrial estate expected to be completed by 1984.

61. Definition of "large firms" is not provided by Miner and Associates in their Industrial Survey of Jordan.

62. Miner and Associates, op. cit., p. 75.

63. E.I.U. Annual Supplement to Q.E.R.: Syria, Jordan, p. 29.

64. E.I.U., op. cit., p. 29.

65. Mention should also be made of the relatively high level of trade (both in phosphates and in manufactured goods) that Jordan does with the CMEA countries. This has implications for the role of the Jordanian State in the organizing of trade in industrial products. We shall briefly touch upon this in the next section.

66. Ministry of National Economy. Investment Conditions and Opportunities in Jordan, Amman, 1972, p. 1.

67. IBRD. Special Economic Report: Jordan, p. 2.

68. See next section.

69. IBRD. Jordan: Appraisal of Industrial Development Bank, Report No. 1018a-JO, 1976, p.4.

70. Ibid., p. 4.

71. Ibid., p. 5.

72. IBRD. Special Economic Report: Jordan, p. 14.

73. Major industrial projects included in the Five Year Plan are discussed in section 4.

74. Five Year Plan, p. 172-177. Discussed in section 4.

75. U.S. Department of Commerce, Overseas Business Reports: Jordan, OBR 70-93, December 1970, p. 6.

76. IBRD, Special Economic Report: Jordan, p. 16.

77. Third Five Year Plan, p. 190.

78. American and European interest particularly in oil exploration and in the technical management of mining concerns is also considerable.

79a. Miner and Associates, op. cit.

79b. Not available as yet at UNIDO Headquarters, but reported in the Financial Times, London, "Jordan Industries Study", FT. 23/5/1979, p. 13.

79c. According to this study, import substitution capacity also exists in the furniture, clothing and the travel goods industry.

79d. Five Year Plan, p. 171-172.

80. This was originally a five year plan but in 1963 it was redesigned as a seven year plan to cover the period 1963-70.

81. Azar, op. cit., p. 99.

82. Ibid., p. 101.

83. Five Year Plan, p. 15-22.

84. Although the target rate of growth of industrial output was less than the growth rate actually achieved industrial expansion did not lead to as high a rate of industrial employment as had been envisaged. Only 8,000 new jobs were created in the industrial sector (see Five Year Plan, p. 166) during this period.

85. Azar, op. cit., p. 100.

86. Ibid., p. 109.

87. Extracted from Azar, op. cit., p. 89-91.

88. Arab Economist, July 1977, p. 79.

89. Quarterly Economic Review, Syria, Jordan, Second Quarter 1979, p. 17.

90. Ibid., p. 17.

91. Financial Times, 25 May 1979 (Jordan IV).

92. Five Year Plan, p. 183.

93. Middle East Economic Digest, 3 November 1978, p. 28.

94. Arab Economist, July 1977, p. 79.

95. Arab Economist, November 1978.

96. IBRD. Staff Appraisal Report: Jordan, The Arab Potash Project. Report No. 1922-JO, August 1978, p. 51.

97. Five Year Plan, p. 187.

98. This survey is not available at UNIDO headquarters; however, some of its findings are related in Malalah (et al). The Small-scale and Handicraft Industries in Jordan 1976, Industrial Development Bank, Amman (n.d.), which is available.

99. Malalah, op. cit., p. 85 and 86.

100. I.e. 55 firms in Miner's sample of 589 firms.

101. Miner and Associates, op.cit., p. 76.

102. Information in the following paragraphs is based on Malalah, op. cit., p. 11 - 60.

103. If large firms are excluded the average is 12.5 workers per establishment.

104. Malalah, op. cit., p. 86.

105. Moreover variation among industries was moderate.

106. 22 out of 39 firms (50 per cent) gave this reason. Only one gave shortage of skilled labour as the reason for capacity underutilization.

107. Miner and Associates, op. cit., p. 95

108. Ibidem, p. 95.

109. This represents a summary of the main findings of Miner's Survey, op. cit., pages 75-79 and 95-103.

110. Azar, op. cit, p. 94.

111. Five Year Plan, p. 174.

112. Industrial Development Co-operation Law of 1973 quoted in Jordan Investment Promotion Office. Investment Conditions and Opportunities in Jordan, Amman, 1973, p. 52.

113. Planning Law 68 of 1971 quoted in Jordan Investment Promotion Office, op. cit., p. 44.

114. Extracted from Jordan Investment Promotion Office, op. cit., p. 69-74.

115. Five Year Plan, p. 174-175.

116. 21 per cent of the preferential shares are owned by non-Jordanian investors (mainly Arab). Information for 1975. IBRD, op. cit., Annex 9.

117. IBRD. Jordan: Appraisal of the Industrial Development Bank, Report No. 1018a-JO, 1970, p. 11.

118. 1.3 in 1975.

119. Information for 1976. IBRD, op. cit., Annex 7.

120. Industrial Development Bank. The Small-scale and Handicraft Industries in Jordan, Amman, 1976(n.d.). The findings of this survey have been discussed above.

121. That is, merger.

122. Miner and Associates, op. cit., p. 92.

123. Five Year Plan, p. 171-172.

124. Ibidem, p. 172-177.

125. Azar, op. cit., p. 127.

126. Five Year Plan, p. 53.

127. Azar. op. cit., p. 138.

128. Ibid., p. 137.

129. "Jordan: A Meed Special Report", Middle East Economist Digest, June 1976, p. 14.

130. "Manufacturing and Mining", Financial Times, London, Jordan-IV, 25 May 1979.

131. "The Labour Market", Financial Times, op. cit.

132. "Labour Market Dilemma", Financial Times, London, Jordan III, 25 May 1979.

133. Azar. op. cit., p. 155.

134. Ibid., p. 137.

135. Now suspended.

136. Largely accounted for by the phenomenal increase in 1974. Exports in 1974 were 181.4 per cent more than in 1973. The ACM's share, however, rose by only 45 per cent in this year.

137. All figures in this paragraph from IBRD. Special Economic Report: Jordan, Review of the Five Year Plan, 1976, Appendix, Table 3.10.

138. Azar, op. cit, p. 135.

139. Middle East Economic Digest. Op. cit., p. 8.

140. "Economy Depends on Outside Forces", Financial Times,London, 25 May 1979, Jordan II.

141. US$ 46.5 million according to the Middle East Economic Digest, 17 June 1977.

142. Information from QUER. Syria, Jordan EIU. Second Quarter 1979, and QER. Syria, Jordan EIU 4 + 4 Quarter 1974.

143. Information from Industrial Operations Division, UNIDO.

144. Singer. "Policy Implications of the Lima Target", Industry and Development, No. 3, UNIDO, p. 26.

145. Kadar. "The Increasing Entry of the Developing Countries into the International Industrial Division of Labour", Industry and Development, No. 3, UNIDO, p. 54-64.

146. See The Lima Declaration and Plan of Action (ID/CONF.3/13, Chapter IV). Also see the introduction and the articles by Singer and the UNIDO Secretariat in Industry and Development, No. 3, 1979 (Special issue for the Third General Conference of UNIDO).

147. "Economy Depends on Outside Forces", Financial Times, London 25 May 1979, Jordan II.

148. Ibid.

149. Ibid.

150. On criteria for identifying regional integrative projects see the articles by Kuyvenhofen and Franco in Industry and Development No.1, 1978.

151. Phosphates was not among the 21 natural resource based industries surveyed by UNIDO in 1978. Results in World Industrialization Since 1960, UNIDO, 1979, Chapter VI.

152. Both these proposals were discussed by Hassan in his speach to the 1978 Symposium on Arab Business Co-operation at Montreaux. See Z. Mikdashi, Arab-European Business Co-operation, Montreaux, 1978, p. 21-22.

A P P E N D I X

ENCOURAGEMENT OF INVESTMENT LAW No. 52 OF 1972

as amended by amending Law No. 60 of 1973 published in the Official Gazette No. 2460, November 15, 1973

Sections of the Law pertaining to definitions of economic projects and approved economic projects (sections 5 and 6), various exemptions from taxes and other charges (sections 13-20) and facilities and guarantees (sections 21-27) are reproduced below:

Chapter I

PROJECTS

Section 5. Provision for Economic Project

For the purposes of this Law a project shall be declared to be an "economic project" provided that it fulfills the following conditions:

a. Is identified with the goals of the general plan of economic development, and approved by the government authority or authorities concerned;

b. Contributed to the increase of national production, and its gross value added be not less than 20 per cent of its cost;

c. Contributes to the support of the trade balance or the balance of payments;

d. Is approved by the Council of Ministers.

Section 6. Provision for Approved Economic Project.

For the purposes of this Law a project shall be declared to be an "approved economic project" provided that it fulfills the following conditions:

a. Is an economic project within the sectors of industry,

tourism, housing, land reclamation or sea transport and approved by the authority or authorities concerned;

b. In the case of an industrial project, the value of its machinery, tools and equipment shall be not less than JD 5,000;

c. In the case of a tourism project, its cost shall be not less than JD 15,000, cost of land excluded;

d. In the case of a housing or a land reclamation project, its cost shall be not less than JD 25,000, cost of land excluded;

e. Is approved by the Council of Ministers.

The Council of Ministers shall, after study the recommendation of the (Encouragement of Investment) Committee, grant an approved economic project all of the following exemptions:

Chapter III

EXEMPTION FROM TAXES, FEES AND OTHER CHARGES

Section 13. Exemption of Fixed Assets Imported for Creation of a Project from Customs Duties on Imports, Import Fees and all other Additional Charges.

Exemption of fixed assets and the spare parts necessary thereto (provided that the value of such spare parts does not exceed 10 per cent of the value of the fixed assets) imported into the Kingdom for the purposes of the creation of a project from customs duties on imports, import fees and all other additional charges, provided that the owners of such a project shall submitt the application for exemption within three years from the date of the declaration of such a project to be an approved economic project in the Official Gazette.

Section 14. Exemption of Fixed Assets Imported for Expansion, Development or Improvement of a Project from Customs Duties on Imports, Import Fees and all other Additional Charges.

a. Exemption of fixed assets imported into the Kingdom

for the purposes of expansion, development or improvement of an existing approved economic project from customs duties on imports, import fees and all other additional charges, provided that the value of such fixed assets shall constitute not less than 25 per cent of the total value of the original fixed assets of such an existing project, and that the productive capacity, in the case of expansion, shall increase by not less than 25 per cent of the productive capacity of the said existing project before the implementation of the expansion.

b. Subject to the provision of subsection (a) of this Section the owners of the existing approved economic project shall submit the application for the exemption of fixed assets from customs duties on imports, import fees and all other additional charges for the purpose of the expansion, development or improvement of such an existing project within one year from the date of the consent of the Minister to their importation.

Section 15. Condition as to Importation of Fixed Assets.

For the purposes of carrying into effect the provisions of Sections 13 and 14, the fixed assets shall be imported into the Kingdom within three years from the date of granting the approval of exemption.

Section 16. Exemptions of Net Profits from Income Tax and Social Services Tax.

a. Exemption of the net profits of an approved economic project from income tax and social services tax for a period of six years. If that project fulfills one of the following two conditions the period of exemption shall be extended to nine years:

1. If it is owned by a public shareholding limited company;

2. If it is created outside the Capital Governorate.

b. The period of exemption shall be effective on the date of commencement of production, provided that the period of implementation of the project shall not exceed three years. In the case of a project the implementation of which requires more than three years the Council of Ministers may, on the recommendation of the Committee, extend the period of implementation.

c. If the implementation of the project exceeds three years or exceeds the period extended by the Council of Ministers, the period in excess shall be deducted from the period of exemption mentioned in subsection (a) of this section.

Section 17. Additional Exemption of Net Profits from Income Tax and Social Services Tax Following Expansion of a Project not Owned by a Public Shareholding Limited Company and Created within the Capital Governorate.

Following the expiry of the period of exemption as stated in Section 16, the existing approved economic project may be granted additional exemption from income tax and social services tax on 25 per cent of the net profits of such an existing project following the implementation of the expansion, for a period of three years from the date of such an implementation provided that the value of the fixed assets imported for the purposes of the expansion shall constitute not less than 25 per cent of the total value of the original fixed assets of the said existing project.

Section 18. Additional Exemption of Net Profits from Income Tax and Social Services Tax Following Expansion of a Project Owned by a Public Shareholding Limited Company or Created outside the Capital Governorate.

If the existing project referred to in Section 17 fulfills one of the following two conditions, the exemption from the said

income tax and social services tax shall be for a period of four years from the date of the implementation of the expasion:

1. If it is owned by a public shareholding limited company;

2. If it is created outside the Capital Governorate.

Section 19. Exemption of Buildings and Lands Owned by a Project from Building and Land Taxes.

Exemption of the buildings and lands which a project acquires to the extent they are used for its purposes from building and land taxes for a period of five years from the date of the declaration of such a project to be an approved economic project in the Official Gazette.

If the approved economic project fulfills one of the following two conditions, the exemption from such taxes shall be for a period of seven years:

1. If its is owned by a public shareholding limited company;

2. If it is created outside the Capital Governorate.

Section 20. Grant of all or part of Exemptions Stated in Sections 13 through 19 to an Economic Project.

The Council of Ministers shall, after studying the recommendation of the Committee, grant an economic project all or part of the exemptions stated in Sections 13 through 19.

Chapter IV

FACILITIES AND GUARANTEES

Section 21. Grant of State Land to an Approved Economic Project Created outside the Capital Governorate; Cancellation of Grant.

Notwithstanding anything contained in the Administration of State Property Law No. 9 of 1968 and in any other law which may amend or supersede the said Law the Council of Ministers may, on the recommendation of the Committee, grant, free of charge, an approved economic project created outside the

Capital Governorate, tracts of State land necessary for its purposes provided that such tracts shall be delimited to meet its indispensable requirements.

If such a project is not created outside the Capital Governorate or, if created, is subsequently transferred or liquidated, the ownership of such tracts of State land shall revert to the State and shall not be transferred otherwise, and the value of the said tracts of land shall not be added to the capital of the project.

Section 22. Treatment of Arab, Foreign and Domestic Capital Equally.

a. Arab and foreign capital invested, under the provisions of this Law, in any economic project or approved economic project in the Kingdom, whether the investment as such is independent of domestic capital or in participation therewith, shall be accorded treatment equal to that accorded to domestic capital.

b. The Government shall guarantee to Arab and foreign capital enjoyment of all the exemptions and facilities granted to it under the provisions of this Law, as well as guarantee the non-diminution of, and non-encroachment on, such exemptions and facilities under any subsequent legislation.

Section 23. Appraisal of Value of Arab and Foreign Capital when in Form of Intangible Rights or in Kind.

If the Arab or foreign capital imported into the Kingdom is in the form of intangible rights or in kind the Committee shall reappraise and determine the value of such capital within a period of three months from the date of its importation into the Kingdom by means of examination of the documents relating thereto, study of world market prices and consultation with experts.

Section 24. Facilities for Transfer of Profits and Interest outside the Kingdom.

Subject to the provisions of Foreign Exchange Control Law No. 95 of 1966, and to any other law which may amend or supersede the said Law, the Committee shall examine the applications for the transfer outside the Kingdom of the profits and interest which accrue from the Arab or foreign Capital imported and invested in the Kingdom under the provisions of this Law or any previous legislation and take the measures necessary to facilitate and expedite the transfer thereof.

Section 25. Facilities for Transfer of Arab and Foreign Capital outside the Kingdom.

a. The Committee shall approve the transfer outside the Kingdom of the Arab or foreign capital imported and invested in the Kingdom under the provisions of this Law or any previous legislation in three equal annual instalments after the lapse of two years from the date on which the project in which such capital is invested begins production.

b. Notwithstanding anything contained in subsection (a) of this Section the Committee may, in special cases, approve the transfer of the Arab or foreign capital outside the Kingdom without regard to the periods or instalments stated therein.

Section 26. Foreign Exchange Control Law.

a. The transfer of Arab or foreign capital to or outside the Kingdom shall be subject to the provisions of Foreign Exchange Control Law No. 95 of 1966 and to any other law which may amend or supersede the said Law.

b. The transfer of profits, interest, Arab or foreign Capital outside the Kingdom shall, subject to the approval of the Central Bank of Jordan, be effected in the currency in which such capital was imported or in any other convertible foreign currency.

Section 27. Transfer of Salaries and Compensation of Non-Jordanian Employees outside the Kingdom.

a. Non-Jordanian employees who hold technical or administrative positions in projects in the Kingdom may, subject to the approval of the Committee and in the manner which the Central Bank of Jordan may determine, transfer outside the Kingdom 70 per cent of their salaries and compensation for termination of service.

b. Notwithstanding anything contained in subsection (a) of this Section, such non-Jordanian employees may, subject to the approval of the Committee and in the manner which the Central Bank of Jordan may determine, transfer outside the Kingdom the full amount of compensation for termination of service.