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An Economic Assessment of Bahrain's Attempts at Industrial Diversification

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FOREWORD

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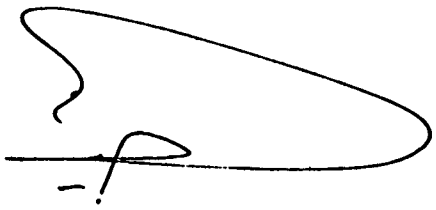

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An Economic Assessment of Bahrain's Attempts at Industrial Diversification

By Robert E. Looney *

Introduction

Having discovered oil before its rich neighbors, Bahrain's economic growth since the 1920s has been and is fueled by oil. Partly as a result of its trading and pearling traditions, partly because of its more developed educational system and partly because of its small size and the foreseeable depletion of its oil resources, Bahrain was one of the first Gulf states to industrialize and by far the most innovative in attracting foreign participation, including regional participation, in its industrial development[1].

Signs of greater confidence in Bahrain's ability to develop its industrial sector emerged after the oil price increases of the 1970s. Rapidly rising oil revenues gave government planners a new opportunity to diversify the economy and to build the necessary infrastructure for subsequent industrialization.

Despite its inability to constrain the growth of government consumption, the government has managed to increase its infrastructural investments quite rapidly. For the most part, its direct participation in industrial projects has been limited. Instead, the government has been satisfied with providing the infrastructure capable of attracting private and foreign government participation in industry[2].

The purpose of this paper is to assess Bahrain's industrialization efforts to date. What progress has been made toward industrial diversification and in what sense? How has Bahrain's industrial performance compared with that of neighboring Arab Gulf economies? What particular problems must be overcome if the industrial diversification process is to continue? What are the country's prospects for the future?

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(1) Abdullah Al-Yousef, "An Evaluation of Bahrain's Major Industries and Their Future Prospects," in Jeffrey Nugent and Theodore Thomas eds., **Bahrain and the Gulf** (New York: St. Martin's Press, 1985), p. 123.

(2) Abdullah Al-Yousef, "An Evaluation of Bahrain's Major Industries and Their Future Prospects," in Jeffrey Nugent and Theodore Thomas, **Bahrain and the Gulf** (New York: St. Martin's Press, 1985), p. 123.

Overview

Bahrain's oil reserves are strictly limited by comparison to other Gulf States. At its one onshore field, Jabel Al-Dukham, discovered in 1932, production has been declining for the last decade. Its second oil field, Abu Saafah, is offshore and its production is shared with Saudi Arabia. New oil finds are considered unlikely, although renewed exploration was started in the early 1980s. By contrast, the country has estimated non-associated gas reserves of 9 trillion cu. ft. These reserves have been the basis upon which Bahrain developed its energy-intensive industries.

At an early stage in its recent economic development Bahrain acknowledged that future prosperity could not by assured by dependence on the production of oil and gas alone. Aside from simple revenue considerations, there was also the employment issue; the oil and gas sector has traditionally been capital-intensive. The government has therefore spared no effort in attempting to diversify Bahrain's economic bases. Early industrial ventures like the Arab Shipbuilding and Repair Yard (Asry) or the Aluminium Bahrain Company (Alba) were conceived in the early stages of negotiation on Gulf economic integration, as was the 1975 decision to set up an offshore banking sector.

By the time the second phase of industrial projects came to be considered, Bahrain was the obvious choice of location for joint Gulf ventures. Precedence apart, there was also the important factor that Bahrain has an indigenous labor surplus that could staff new plants, whereas if other Gulf states were to expand further their industrial ambitions, they would face greater dependence on expatriate employees [3].

Bahrain's private sector enterprises are largely involved in the production of beverages, plastics, tiles, concrete blocks, matches, nails, industrial gases, wood products, air conditioners, food manufactures, system-built houses and downstream aluminium products. Traditional industries arising from Bahrain's island status e.g., dhow building and fishing also exist on a smaller scale. The government pursues a liberal industrial policy and encourages both domestic and foreign private investment in the manufacturing sector.

Manufacturing's growth has been erratic since the 1981/82 oil price declines. Fairly severe contractions of the industry took place in 1982, 1983 and 1984, with 1984 the only year prior to 1986 experiencing a

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(3) Arab Banking Corporation, **The Arab Economies: Structure and Outlook, second revised edition** (Manama, Bahrain: ABC, 1986), p. 34.

positive rate of growth (Table 1). As a result, manufacturing now accounts for about 12 percent of Gross Domestic Product, and 16 percent of non-oil GDP (Table 2), although its share in total employment is significantly smaller. The proportion of manufactures in total exports has risen in recent years, while the proportion in GDP value added has fallen from the levels reached in the 1970s - -14 - 15 percent.

The industrial strategy is oriented towards a rapid development of energy and capital-intensive heavy industries aiming at the regional market. Despite the recession - which has affected most Gulf countries since 1982 - there are no signs that plans to expand capacity in aluminium, steel and petrochemicals are being shelved. Rapid diversification of the economy is of particular interest as oil reserves are depleted. Both the manufacturing and service sector (particularly banking) are expected to play a key role in the country's diversification efforts.

In terms of the large publicly-owned heavy industries, there have been setbacks in the second phase of projects, while out of the three spearheads of Bahrain's early industrialization - Bahrain Petroleum Company (Bapco), Aluminium Bahrain (Alba), and Arab Shipbuilding and Repair Yard Company (Asry) - only Alba has consistently performed to expectation. The successful implementation of offshore banking in the late 1970s and 1980s also served to redirect the emphasis of job and wealth creation within the economy, while increasing overall operating costs across various sectors.

Relative Economic Structure

Bahrain's open and trade-oriented economy is reflected in the 100 percent share of gross domestic expenditures attributable to both imports and exports, to the large contribution of trade to GDP, and to the small share of total output originating in the agricultural and light industrial sectors. The oil and gas sectors earn about two thirds of government revenues, but have only a 20-25 percent share of GDP. Unlike in other Gulf economies, where the difference between oil and gas's share of government revenue in GDP are approximately 95 percent and 55 percent and represent the disbursement of these revenues in government development programs, the disparity in Bahrain reflects the much less central role of government spending in overall economic activity [4].

(4) Arab Banking Corporation **The Arab Economies: Structure and Outlook, second revised edition** (Manama, Bahrain: ABC, October 1986), p.35.

Table 1

Bahrain: Gross Domestic Product by Sector, 1981 – 1986

(BD million at constant 1980 prices)

Sector	1981	1982	1983	1984	1985	1986
Agriculture	20.8	22.2	21.1	20.3	19.9	20.0
	–	(6.7)	(–5.0)	(–3.8)	(–2.0)	(1.5)
Mining & Quarrying	342.3	309.2	321.1	364.1	390.5	355.7
	–	(–9.7)	(3.8)	(13.4)	(7.3)	(–8.9)
Manufacturing	176.5	154.6	142.8	153.1	140.7	205.9
	–	(–12.4)	(–7.6)	(7.2)	(–8.1)	(39.4)
Electricity and water	16.8	17.9	21.9	24.4	25.8	23.3
	–	(6.5)	(22.3)	(11.4)	(5.7)	(–9.7)
Construction	118.9	123.0	144.7	166.5	133.7	115.3
	–	(3.4)	(17.6)	(15.1)	(–19.7)	(–13.8)
Wholesale/retail trade	151.7	202.5	181.7	136.2	119.2	111.6
	–	(33.5)	(–10.3)	(–25.0)	(–12.5)	(–6.4)
Communications/trans	120.5	142.0	153.8	174.3	167.1	143.0
	–	(17.8)	(8.3)	(13.3)	(–4.1)	(–14.4)
Finance	184.8	283.0	258.0	240.0	227.8	289.6
	–	(53.1)	(–8.8)	(–7.0)	(–5.1)	(27.1)
Real Estate	79.6	83.3	86.1	91.2	81.5	80.7
	–	(4.6)	(3.4)	(5.9)	(–10.6)	(–1.0)
Other Services	41.3	41.6	44.4	48.9	53.4	51.3
	–	(0.7)	(6.7)	(10.1)	(9.2)	(–3.9)
Government Services	182.3	203.2	205.8	228.2	243.3	243.8
	–	(11.5)	(1.3)	(10.8)	(6.6)	(0.2)
Non-oil GDP	1093.2	1273.1	1260.3	1283.5	1212.4	1284.5
	–	(16.5)	(–1.0)	(1.8)	(–5.5)	(5.9)
GDP (producers values)	1435.5	1582.3	1581.4	1647.6	1602.9	1640.2
	–	(10.2)	(–0.1)	(4.2)	(–2.7)	(2.3)

Sources: Directorate of Statistics, Statistical Abstract.
Note: ( )= annual rate of growth.

Table 2

Bahrain: Share of Gross Domestic Product by Section, 1981 – 1986.

(percent of Gross Domestic Product, 1980 constant prices).

Sector	1981	1982	1983	1984	1985	1986
Agriculture	1.4	1.4	1.3	1.2	1.2	1.2
	(1.9)	(1.7)	(1.7)	(1.6)	(1.6)	(1.6)
Mining & Quarrying	23.8	19.5	20.3	22.1	24.4	21.7
	(31.3)	(24.3)	(25.5)	(28.4)	(32.2)	(27.7)
Manufacturing	12.3	9.8	9.0	9.3	8.8	12.6
	(16.1)	(12.1)	(11.3)	(11.9)	(12.2)	(16.0)
Electricity and water	1.2	1.1	1.4	1.5	1.6	1.4
	(1.5)	(1.4)	(1.7)	(1.9)	(2.1)	(1.8)
Construction	8.3	7.8	9.2	10.1	8.3	7.0
	(10.9)	(9.7)	(11.5)	(13.0)	(11.0)	(9.0)
Wholesale/retail trade	10.6	12.8	11.5	8.3	7.4	6.8
	(13.9)	(15.9)	(14.4)	(10.6)	(9.8)	(8.7)
Communications/trans	8.4	9.0	9.7	10.6	10.4	8.7
	(11.0)	(11.2)	(12.2)	(13.6)	(13.8)	(11.1)
Finance	12.9	17.9	16.3	14.6	14.2	17.7
	(16.9)	(22.2)	(20.5)	(18.7)	(18.8)	(22.5)
Real Estate	5.5	5.3	5.4	5.5	5.1	4.9
	(7.3)	(6.5)	(6.8)	(7.1)	(6.7)	(6.3)
Other Services	2.0	2.6	2.8	3.0	3.3	3.1
	(3.8)	(3.3)	(3.5)	(3.8)	(4.4)	(4.0)
Government Services	12.7	12.8	13.0	13.9	15.2	14.9
	(16.7)	(16.0)	(16.3)	(17.8)	(20.1)	(19.0)
Non-oil GDP	76.2	80.5	79.7	77.9	75.6	78.3

Sources: Directorate of Statistics, Statistical Abstract.
Note: ( )= percent of non-oil gross domestic product.

To get an idea of the manner in which the Bahraini economy has evolved since the 1973/74 oil price increases, together with a picture of the critical areas in which the economy differs from that of its neighbors, a factor analysis of the major economic structural characteristics of the Arab countries was unddertaken. Based on the previous discussion, and as an initial hypothesis, it was assumed that Bahrain differed from other Arabian Gulf countries in that it has:

a. due to the early start of its industrialization, a larger share of output accounted for by manufacturing.
b. as a result of limited reserves, a small oil sector relative to total economic activity.
c. as a corollary to (b) above, a relatively small government sector due to limited revenues.
d. based on population and income, a relatively small economic size.
e. based on its trading orientation and (d) above, a very open economy with a relatively large import component.

To avoid as much as possible arbitrarily defining the variables used in the analysis, each structural feature (except size) was represented by two measures: (a) its share of non-oil Gross Domestic Product, and (b) its share of absorption (total consumption plus investment). The relative size of each country was depicted by its share of Arab World Gross Domestic Product times its share of Arab World population [5]. Defined this way, the measures represent the relative extent of development of each country in terms of the five major structural factors.

Structural change over time was observed by spreading the factor analysis over five year intervals for the 1975-85 period. The data sample was taken from the Arab Monetary Fund and included the twenty Arab members of the Fund.

The factor analysis identified five main trends in the data. As it turned out, the sectoral shares of non-oil GDP and absorption are correlated closely enough so that each of the factors represented one of the four main sectors. The resulting factor scores for each sector, therefore,

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(5) Data are for the twenty member countries of the Arab Monetary Fund, and was taken from: Arab Monetary Fund **National Account Estimates, 1974-1985** (Abu Dhabi: Arab Monetary Fund, 1987).

(6) Arab Monetary Fund, **National Accounts of Arab Countries, 1974-85** (Abu Dhabi: Arab Monetary Fund, 1987).

represent the relative[7] ranking of each of the twenty countries in terms of the development of each sector.

More specifically, the factor scores have a mean of zero. The country with the highest positive factor score on a particular sector possesses the largest share (relative to the other nineteen countries) of that sector in its economy. Similarly, the country with the lowest (negative) factor score has the smallest share of that sector in its economy. The rest of the countries will rank between. Several interesting trends were identified. In particualr, at the beginning of the period in 1975 (Table 3):

Tabel 3

Arab Gulf States: Structural Evolution, 1975 – 1985

(Factor Scores)

	Factor 1 Manufact	Factor 2 Oil	Factor 3 Gov. Exp	Factor 4 Imports	Factor 5 Size
Gulf Economies			**Structural Dimension 1975**		
UAE	−0.90	1.42	−1.19	0.39	−0.05
Bahrain	2.92	−0.15	−0.50	2.31	−1.02
Saudi Arabia	0.88	2.29	1.80	0.14	1.45
Oman	−1.37	0.76	1.43	1.84	−0.17
Qatar	−0.12	1.72	2.39	−1.84	−0.75
Kuwait	na	na	na	na	na
Oil Economies			**Structural Dimension 1980**		
UAE	−0.02	1.28	−0.71	0.73	−0.50
Bahrain	2.24	−0.42	−0.40	2.53	−0.87
Saudi Arabia	0.02	0.87	1.16	0.40	2.16
Oman	−1.72	0.81	0.44	0.57	−0.52
Qatar	0.00	1.80	1.31	−0.20	−0.84
Kuwait	0.73	1.35	0.18	0.80	−0.50
Oil Economies			**Sectorial Dimension 1985**		
UAE	1.22	1.43	−1.17	−0.02	−0.50
Bahrain	0.69	−0.37	−0.70	1.33	−0.65
Saudi Arabia	−0.31	0.39	1.73	0.48	1.25
Oman	−1.61	1.39	0.68	0.21	−0.81
Qatar	0.54	1.34	2.11	−0.77	−0.40
Kuwait	−0.52	1.51	0.78	1.01	−0.07

Notes: Factor analysis based on orthagonal rotation. Data from Arab Monetary Fund, **National Accounts of Arab Countries, 1974-85** (Abu Dhabi: Arab Monetary Fund, 1987).

(7) Only the results for the Gulf countries are reported here.

1. Bahrain was by far the leading Gulf country in terms or the relative development of its manufacturing sector. In fact, Saudi Arabia was the only other country that even remotely approached Bahrain in terms of the degree of industrial diversification.
2. Aa anticipated, Bahrain possessed a relatively small oil sector. Despite producing a significant absolute amount of oil, the country still had a negative factor score on oil when compared to other Gulf economies.
3. Next to the UAE, Bahrain's government sector played a considerably smaller role in the economy relative to the other Gulf countries.
4. Despite possessing limited amounts of oil (and oil revenues), Bahrain's imports accounted for a relatively large share of domestic expenditures.
5. Based on economic size determined by population and Gross Domestic Product, Bahrain was the smallest Gulf economy.

By 1980:

1. Although losing a bit of its initial head in relative industrial development, Bahrain still led the other Gulf countries in the share of economic activity accounted for by manufacturing.
2. As a result of the expansion of hydrocarbon revenues in neighboring countries, Bahrain declined even further in terms of the importance of oil in its economy.
3. Despite limited oil wealth, the country was by far the region's largest importer in terms of its non-oil GDP and absorption (total consumption/investment).

Finally by 1985:

1. Partially as a result of expansion in neighboring countries, particularly the UAE and Qatar, Bahrain had suffered a significant decline in its level of industrial diversification.
2. Perhaps as a result of its limited oil revenues the country also experienced a fairly large drop in its position as the most import intensive of the Gulf economies.

A further understanding of the process of structural change can be gained from a similar factor analysis of Bahrain's sectoral change over same period. Again using a sample of twenty Arab world countries, the four main non-oil sectors of the economy were depicted by their share in (a) non-oil GDP and (b) absorption.

Again the results (Table 4) show several interesting patterns:

Table 4
Arab Gulf States:
Structural Evolution, 1975-85

(Factor Scores)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Distrib	Factor 4 Serv
Gulf Economies	**Sectoral Dimension - 1975**			
UAE	-1.14	2.00	1.88	-0.91
Bahrain	2.74	-0.35	0.92	0.00
Saudi Arabia	0.90	1.06	-1.00	0.65
Oman	-1.53	1.10	-0.21	0.60
Qatar	0.27	1.82	1.85	0.13
Kuwait	0.05	-0.84	-0.50	2.08
Oil Economies	**Sectoral Dimension - 1980**			
UAE	-1.02	2.06	1.47	-0.81
Bahrain	2.87	-0.46	1.94	0.57
Saudi Arabia	0.97	2.08	-0.96	0.24
Qatar	-1.43	0.20	1.27	0.11
Oman	-0.14	0.67	0.97	2.07
Kuwait	0.18	-0.24	0.32	1.51
Oil Economies	**Sectorial Dimension - 1985**			
UAE	1.37	1.23	1.34	-0.02
Bahrain	0.86	0.40	1.96	0.59
Saudi Arabia	-0.16	1.60	-0.78	0.57
Qatar	0.79	0.29	0.16	2.75
Oman	-1.53	0.39	1.11	0.23
Kuwait	-0.42	-0.87	-0.22	1.00

Notes: Factor analysis based on orthagonal rotation. Data from Arab Monetary Fund, **National Accounts of Arab Countries, 1974-85** (Abu Dhabi: Arab Monetary Fund, 1987).

1. At the beginning of the post-oil boom period (1975), Bahrain's economy was dominated by the industrial sector to the extent that none of the other non-oil sectors accounted for a significant share of economic activity.
2. The 1975-80 period seems to be best characterized as one of the rapid expansion in distributive activities (largely finance).

3. The development of the financial sectors do not appear, however, to have been at the expense of manufacturing - in 1980 Bahrain was still by far the leading Gulf country in terms of its relative degree of industrial diversification.
4. Again, by 1985 it is apparent that the country had lost much of its lead in progress towards industrial diversification. The economy had, however, developed more sectoral balance over the previous decade, with industry, distribution, construction and services all displaying positive factor scores.

These trends can be best understood by examining developments in several of the country's major industries.

Recent Developments in Industry

Aluminum

The first major industry to be developed in Bahrain was Aluminum Bahrain (ALBA). ALBA was established in 1968 by a consortium of six international companies (mainly users of aluminum) and the Government of Bahrain, which originally held 19 percent of the shares. Bahrain had several advantages in attracting the aluminum industry:[8]

1. The availability of cheap natural gas in large quantities, aluminum being an energy intensive industry.
2. Pelatively low labor costs (at the time of initial production).
3. In view of the capital intensity of aluminum, a favorable investment climate.

In recent years the company has been a major success. Initially, however, the company suffered fairly high losses. By 1979, the Bahrain government was able to sell 20 percent of ALBA's equity to the Saudi Basic Industries Corporation (SABIC). The entry of SABIC in ALBA has been of considerable help to the Bahrain government both in reducing the control of the industry by and dependence on the Kaiser Corporation, and in inducing Saudi Arabia to abandonits aluminum smelter project in Jubail in favor of expanding the smelters in Bahrain and Dubai. This action helped to reduce duplication of economic activity in the region and to coordinate industrialization among the Arab countries of the Gulf.

(8) Abdullah Al-Yousef, "An Evaluation of Bahrain's Major Industries and Their Future Prospects," in Jeffrey Nugent and Theodore Thomas, eds., **Bahrain and the Gulf** (New York: St. Martin's Press, 1985), pp. 124-25.

ALBA's success in the 1980s in competing internationally in a volatile industry and providing an alternative source of income for Bahrain was acknowledged at the start of 1985 when the company's board approved a BD60 million expansionary program. The expansion should increase capacity by about 25 percent over a five year period. This is its second expansion and on completion ALBA will have increased by 90 percent the smelter's original (1971) rated capacity to reach above 225,000 tons per year by 1991.

Operating costs have been reduced to below the level of 10 years ago and are still falling-so is the staff. When the expanded capacity is functional, production per employee is expected to increase four-fold.

The long-run economic viability of ALBA is dependent on a set of somewhat unrelated factors, making the future profitability of the company difficlt to assess:[9]

1. The world supply of and demand for aluminium.
2. The movement of world energy prices and hence of Bahrain's energy cost advantage.
3. World transport costs which are especially important to ALBA because of its distance from both the sources of alumina and markets for aluminum, and
4. The development of aluminum-using industries in Bahrain and the Gulf.

ALBA is currently at a major disadvantage since, as a result of the decrease in the relative importance of foreign company participation, the company is unable to take advantage of the economies of scope and reduced transaction costs that arise in vertically integrated operations. The only way in which this disadvantage could be offset would be through the development of aluminum-using industries, and to a certain extent this has taken place. In fact, the company has spawned a flourishing downstream industry in Bahrain. Local sales of liquid metal, extrusion billet and rolling ingot rose by 39 percent in 1987 to 64,537 tons. The latest firm to start operations, Gulf Aluminum Rolling Mill Compay (Garmco) will eventually take 70,000 tons of rolling ingot.[10]

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(9) **Ibid.**, p. 125.

(10) Peter Kemp, "The Future of Gulf Aluminum," **Middle East Economic Survey** (March 26, 1988), p.7.

Garmco began its first full year of operations in 1986, and appears to be able to operate on an internationally competitive basis, despite being designed primarily for regional demand. Of the other downstream manufacturers, it seems that access to Saudi markets either through agreement or joint ownership is a prerequisite of success.

While aluminum prices have been increasing in recent years, there is some doubt that these gains can be sustained. In fact, plans to raise Gulf aluminum output to 750,000 - 1,000,000 tons a year are going ahead even though recent reports suggest that world aluminum output will rise even faster. However, most observers feel that much of the United States and European capacity is obsolete and sustained only by the current price levels for finished metal.

The plants in these countries do not compete in cost or quality with Gulf and other new producers in developing countries. In particular, aging plants cannot deliver the premium output for which demand is now greatest. A settling of the market is widely expected forcing the closure of swing producers in OECD countries. Once the heavy investment has been recouped, Gulf producers will be among the few that can survive with lower prices.[11]

Shipbuilding and Repair

The second major joint venture and industrial enterprise established in Bahrain was the Arab Shipbuilding and Repair Yard (ASRY) Which began operation in November 1977. Five Organization of Arab Petroleum Exporting Countries (OAPEC) each own 18.84 percent of ASRY. OAPEC's decision to locate ASRY in Bahrain was motivated by Bahrain's advantages in terms of infrastructure, industrial labor force, communications and transport and the well developed state of its commercial sector.[12]

OAPEC's positive evaluation of ASRY was based more on strategic, long term developmental and diversification-from-oil considerations than on the basis of commercial profitability. As a result, ASRY's investors have been willing to subsidize the company's ambitious training program for 'Arabizing' its work force.

(11) **Ibid.**

(12) Al-Yousef, **op. cit.**, p. 127

ASRY's ability to compete for business both within the region and the world as a whole is limited by the fact that shipbuilding and repair is a labor-intensive industry and Bahrain is a relatively high wage country. Since low wage competitors are quite far away, its location is certainly advantageous. The extent of this advantage is gratly reduced by competition from the large and nearby Dubai Shipyard and Dry-dock which was established almost simultaneously with ASRY, but which did not begin its operations until later.[13]

In addition to competition from the Dubai Shipyard, ASRY has suffered in recent years from the general decline in tanker traffic to the Gulf, the further effects of the Gulf war, and from the competition from the Dubai Drydock Company which has undercut Asry prices by as much as 10 percent. Success in winning onshore steel fabrication work is not seen as a long-term guarantee of the operation's future.

Between 1979 and late 1981 Asry worked on an average of 110 vessles per year; by the mid 1980s the average was about 54. However, there are encouraging signs. The company has met and matched the low rates offered in the Far East and parts of Europe; in 1986, operating costs at Asry stood at BD9.1 million, down from BD10.6 million in 1985 and BD13.9 million in 1984. Asry's operating costs today are half that of 1981. The yard has expanded its sales efforts and technical capabilities to cover the gas and product carriers market and the repair of rigs and barges. In a showcase effort, Asry was the first shipyard worldwide to convert a VLCC into a product carrier.

Analysts feel that as a result of these developments, the end of the Gulf war shoud result in the company making a profit in 1989.[14]

Petrochemicals

The Gulf Petrochemical Industries Company (GPIC) is a joint venture between Bahrain, Kuwait, and Saudi Arabia with equity capital of $ 160 million and total investment of over $ 400 million. The company has made the most promising start of the country's heavy industries by coming onstream on time (1985) and within budget.

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(13) **Ibid.**

(14) As a closed shareholding company, Asry is not required to publish its figures. Apparently the company has not shown a profit since 1981. **Arab Industry Review 1987/88**, p.99.

The establishment of GPIC marks a new era within the Gulf as far as steps taken to avoid the duplication of facilities which had become so rampant in the mid-1970s. Due to the limited and declining supplies of crude oil and associated gas, the limited domestic market for petrochemicals and other existing bottlenecks and problems, Bahrain had been reluctant to develop its own petrochemical industry. GPIC resulted from the willingness of Saudi Arabia and Kuwait to participate with Bahrain in a trilateral joint venture to manufacture ammonia nd methonal. The idea for the plant arose from Bahrain's interests in finding better uses for its natural gas and the Saudi Arabia/Kuwait interest in building a regional energy system.

The marketing of its two products, ammonia and methanol, by joint venture partners Kuwait Petrochemicals Industries Company and Saudi Basic Industries Corporation (Sabic) respectively, could cause problems in view of ECC protectionsist measures.

Steel

The iron pelletizing plant built by the Arab Iron and Steel Company (AISCO), an offshore public shareholding company, started production in early 1985, but was closed three months later because orders were so short that it could not function at even half its installed capacity of 4 million tons per year. Production started again in July 1985 in response to orders from Indian and Australian companies, and total output in 1985 amounted to 680,000 tons. Production in 1986 was estimated to have reached 1.5 million tons, although the plant was again closed during the summer. The company was then put into liquidation following the accumulation of some $200 million in debts. The Gulf Industrial Investment Company (GIIC) a subsidiary of the Kuwait Petroleum Company (KPC) purchased AISCO's fixed assets and production restarted in June 1988.

In general (Aisco) has had difficulty in winning local orders, largely because projected demand from Iraq has been unforthcoming. This situation should improve with the end of the Gulf war.

Refining

Refining in Bahrain is undertaken by the Bahrain Petroleum Company (Bapco). The company has had difficulties in recent years stemming partly from age and partly from the fact that an increasing portion of its throughput is Saudi rather than Bahrain crude. Bapco has been forced to cut back production in recent years. either because Saudi

crude was physically in short supply, or because it could not be processed profitably at the posted prices Saudi Arabia was seeking. The introduction of "netback" pricing by the Saudis, certain plant modernization, and administrative reorganization have encouraged more optimistic future prognostications for Bapco management.

A BD340 million plan to upgrade Bapco's Sitra refinery has been drawn up. The planned modernization and upgrading will install advanced tochnology to ensure the refinery's future competitiveness (the original refinery was built in 1936) and to allow for the production of value added products, such as gas oil and jet fuel. The feasibility study is expected to be complete by January 1989.

The Bahrain National Gas Company (Bananas), producing Propane, Butane and Naphtha, faced during 1985 with a continued decline in the quantity of associated gas from the Bahrain oilfield and the quality of its gas feed, has benefitted from Banco's efforts to maintain the level of pumping. The construction of facilities to expand the gas processing capacity of the plant to 170.0 MMSCFD, or 55 percent above the original design was completed during 1986.[15]

Light Industries

Bahrain's light industries include aluminum products, concrete-blocks, paints, mattresses, air conditioning, dairy and poultry products, furniture, plastic bags, paper manufacture, fiberglass units and others. The local clinker grinding plant is expected to be largely supplanted by supplies from the Saudi-Bahraini Cement Company over time, and generally light manufacturing prospects would seem to reside in increased contact with the Saudi market now that the Bahraini-Saudi Causeway has opened.

Still, the question remains why small industries are not doing better than they are and why there are not more of them. The industrial experience is there as Bapco, Alba and Asry have trained literally hundreds of personnel in various industrial processes.[16] The usual reasons given include:

1. Lack of confidence on the part of technical trainees, and their general lack of marketing skills.

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(15) **Arab Industry Review 1987/88**, op. cit., p. 100.

(16) "Bahrain", **Arab Indusry Review 1987/88**, p.105.

2. Bahrain's very success in developing itself as an international banking and finance center. As a result even ex-Asry, Bapco or Abla employees with industrial skills and experience but little savings, find it almost impossible to raise the necessary long-term financial backing needed to start up an independent manufacturing industrial venture.

Importance of the Distribution Sector

The problem of local financing is somewhat surprising, given the fact that the growth of finance and other distributive trades (here defined as commerce, transportation and finance) has been a major factor setting Bahrain apart from other Gulf countries. Given that most of this growth occurred during a period of relatively low oil revenues but at the same time one in which the country maintained its relatively dominant position in terms of its degree of industrial diversification, it is tempting to conclude that the finance sector substituted oil revenues as a major source of industrial financing.

While it is difficult to test this hypothesis direclty, some sense of the degree of interdependence of the industrial and financial sectors can be obtained from further factor analysis.
Here we are particularly interested in the structural impact of distributive activities. Have these activities complemented the development of industry or instead have they simply helped finance a high level of imports, service activities and/or construction ?

Put differently, Bahrain is by far the most import dependent country in the Gulf. It is also one that during the 1975-85 decade had a significant relative expansion in service and construction activities. Has the expansion of these activities been facilitated by the distribution sector at the expense of industrial diversification?

Again, using two measures: (a) share of non-oil GDP and (b) share of absorption, for each of the main dimensions manufacturing, imports, services and distribution-- of the data, a factor analysis was undertaken. The steps involved:

1. Examining for three separate years. Here in addition to the initial and terminal years of 1975 and 1985, 1981, the end of the oil boom was selected for examination.
2. Computing factor scores for each of the three years.
3. Using steps (1) and (2) as a starting point, another set of factor analyses were undertaken--this time with a variable-- the share of distributive activities in total absorption-- depicting the distributive sector.

4. To determine the relative influence of the distribution sector on sectoral development, the factor scores computed with distribution included (step 3) in the analysis were compared with those (steps 1 and 2) where distribution had been omitted.

Several patterns were identified:

1. In the initial year (1975), distributive activities were not correlated to any great degree with any of the major trends in the data (Table 5).
2. The highest standardized correlation coefficient between distributive activities and the sectoral dimensions examined was for construction (0.37) while that for manufacturing was considerably lower (0.11).
3. At this time manufacturing and services were highly correlated.

Table 5

Arab world: Linkage of the Distribution Sector to Relative Industrialization, 1975

(Standardized Regression Coefficients)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Distribution
Oil Economies		**Sectoral**	**Dimension**	
Services/absor	1.04*	0.14	−0.17	0.00
Services/gdp	0.80*	0.15	0.07	−0.66*
Manufact/gdp	0.68*	−0.33	0.16	0.19
Manufact/absor	0.56	1.31	0.21	0.41
Construct/absor	0.09	1.02*	−0.04	0.35
Construct/gdp	−0.11	0.94*	0.21	0.04
Imports/gdp	−0.09	0.15	0.98*	−0.26
Imports/absor	0.08	0.03	0.90*	0.21
Distribution	0.11	0.37	−0.06	0.93*
(Factor Scores)				

Table 5 (Cont.)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Services
Gulf Economies		**Sectoral Dimension--1975**		
UAE	-1.07	1.99	0.52	-1.15
Bahrain	2.86	-0.28	2.49	0.15
Saudi Arabia	0.89	1.05	0.09	0.70
Oman	-1.51	0.99	1.78	0.21
Qatar	0.12	1.91	-0.59	0.54
Kuwait	0.06	-0.89	0.01	1.89
Oil Economies		**Distributional Effects--1975**		
UAE	-1.02 (=)	2.06 (=)	0.40 (-)	-1.26 (-)
Bahrain	2.87 (=)	-0.46 (-)	2.56 (=)	0.67 (+)
Saudi Arabia	0.97 (=)	1.07 (=)	0.10 (=)	0.74 (=)
Oman	-1.43 (=)	1.18 (+)	1.69 (-)	-0.16 (-)
Qatar	-0.14 (-)	1.71 (-)	-0.52 (=)	0.72 (+)
Kuwait	0.18 (+)	-0.72 (+)	0.14 (=)	1.61 (-)

Notes: Factor analysis based on orthagonal rotation. Data from Arab Monetary Fund, **National Accounts of Arab Countries, 1974-85** (Abu Dhabi: Arab Monetary Fund, 1987). Factor scores derived from a five factor rotation, separating manufacturing from services. Distribution = the share of distributive activities in total absorption.

By 1981 (Table 6):

1. Distributive activities had a high positive correlation with manufacturing (with a standardized regression coefficient of 0.85).
2. As a result of the relative development of their distributive systems, Bahrain, Qatar and Oman were all receiveing a positive stimulus to their industrial diversification efforts from this source.
3. It appears that Saudi Arabia was the only country where the relative underdevelopment of distributive activities was acting as a constraint on industrial diverification.

Table 6

Arab World: Linkage of the Distribution Sector to Relative Indstrialization, 1981

(Standardized Regression Coefficients)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Services
Oil Economies		**Sectoral**	**Dimension**	
Manufact/absor	0.96*	0.01	−0.05	0.09
Manufact/gdp	0.85*	0.19	−0.01	0.09
Distribution	0.81*	−0.07	0.12	−0.21
Construct/abs	0.19	0.99*	−0.04	−0.01
Construct/gdp	−0.10	0.98*	0.04	−0.01
Imports/gdp	−0.14	0.07	0.98*	0.03
Imports/absor	0.31	−0.08	0.89*	0.02
Services/gdp	−0.24	0.10	0.13	0.96*
Services/abs	0.33	−0.15	−0.08	0.87*

(Factor Scores)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Services
Oil Economies		**Sectoral Dimension--1981**		
UAE	0.63	1.21	0.11	−0.60
Bahrain	2.38	−0.21	2.34	0.77
Saudi Arabia	0.21	2.10	0.26	0.18
Oman	−1.59	0.17	0.45	0.33
Qatar	0.49	0.44	−0.57	1.68
Kuwait	0.00	−0.38	0.57	1.34
Oil Economies		**Distributional Effects--1975**		
UAE	0.75 (+)	1.20 (=)	0.11 (=)	-0.61 (=)
Bahrain	2.76 (+)	-0.23 (=)	2.34 (=)	0.63 (−)
Saudi Arabia	-0.16 (−)	2.16 (=)	0.19 (=)	0.36 (+)
Oman	-1.07 (+)	0.05 (−)	0.58 (+)	0.04 (−)
Qatar	0.65 (+)	0.41 (=)	-0.55 (=)	1.56 (−)
Kuwait	0.06 (=)	-0.39 (=)	0.58 (=)	1.28 (=)

Notes: Factor analysis based onorthagonal rotation. Data from Arab Monetary Fund. National Accounts of Arab Countries, 1974-85 (Abu Dhabi: Arab Monetary Fund, 1987).
Distribution = the share of distributive activities in total absorption.

Finally, by 1985 (Table 7):

1. While the stimulative effect of distributional activities on manufacturing had lessened a bit (standardized regression coefficient of 0.75 vs 0.81) compared to 1981, Bahrain's development of finance and related activities enabled the country to continue receiving positive benefits from this source for its industrial diversification efforts.
2. On the other hand, the expansion of distributive activities appears in part to be responsible for the slowing down of industrial diversification in Saudi Arabia and Kuwait, while its effect appears to be neutral in the case of the UAE.

In summing up these results in terms of the questions originally asked, the historical importance of the distributive sector to Bahrain's industrial development together with the problems of finance for smaller industry suggests that the bulk of investment from the financial sector has gone into larger ventures. Given the generally positive relationship between distributional activities and industrial diversification in the arab world, together with the slowdown in industrial diversification in the 1980s, one can only conclude that the offshore banks have not aided significantly in creating an environment for expanded small scale industrial development.

In addition, the results obtained above suggest that current problems of the financial sector will also most likely have an adverse impact on general economic conditions and certainly on the amount of investment that flows into new industrial ventures. As one banker recently commented: 17

"There is an extraordinary demoralization on the island. From a financial point of view it's a disaster. I've recently been asking myself what on earth are we doing in Bahrain".

While many of these banks are off shore and do not lend to local industry, there may be a ripple effect into the domestic markets. The onshore banks have been hurt by the post 1982 recession. Given the defaults the unsympathetic attitude of the country, banks in Bahrain have much less chance of recovering their loans from the forced sale of their debtors assets than they would in the West. About ten of the offshore banks have left the island. Most of those that remain have closed their dealing rooms or greatly reduced their staff. In effect, they are little more than representative offices.

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(17) "Bahrain Turns Sour for the Bankers", **Financial Times**, July 6, 1988), p. 17.

Table 7

Arab World: Linkage of the Distribution Sector to Relative Industrialization, 1985

(Standard Regression Cofficients)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Services
Oil Economies		**Sectoral**	**Dimension**	
Manufact/absor	0.91*	−0.08	−0.06	0.14
Manufact/gdp	0.86*	0.16	0.00	0.14
Distribution	0.75*	−0.03	0.08	−0.27
Imports/absor	0.14	0.99*	0.00	−0.03
Imports/gdp	−0.12	0.96*	−0.01	0.02
Construct/gdp	−0.08	0.07	0.99*	0.01
Construct/gdp	−0.11	−0.08	0.95*	0.04
Services/gdp	−0.13	0.10	0.06	0.97*
Services/absor	0.11	−0.12	−0.01	0.92*

(Factor Scores)

	Factor 1 Manufact	Factor 2 Construct	Factor 3 Imports	Factor 4 Services
Oil Economies		**Sectoral Dimension--1985**		
UAE	1.14	1.22	0.05	−0.01
Bahrain	0.88	0.41	1.41	0.61
Saudi Arabia	−0.12	1.60	0.56	0.54
Oman	−1.47	0.38	0.32	0.20
Qatar	0.70	0.32	−0.72	2.78
Kuwait	−0.34	−0.89	1.11	0.94
Oil Economies		**Distributional Effects--1985**		
UAE	1.54 (=)	1.22 (=)	0.06 (=)	-0.01 (=)
Bahrain	1.41 (+)	0.47 (=)	1.40 (=)	0.38 (−)
Saudi Arabia	-0.46 (−)	1.55 (=)	0.56 (=)	0.66 (+)
Oman	-1.05 (+)	0.46 (=)	0.26 (=)	-0.07 (−)
Qatar	0.80 (+)	0.33 (=)	-0.71 (=)	2.62 (−)
Kuwait	-0.64 (−)	-0.94 (=)	1.11 (=)	1.03 (=)

Notes: Factor analysis based onorthagonal rotation. Data from Arab Monetary Fund. **National Accounts of Arab Countries, 1974-85** (Abu Dhabi: Arab Monetary Fund, 1987).
Distribution = the share of distributive activities in total absorption.

Bahrain's situation is particularly acute because it is the only one of the Arabian Peninsula oil states that has a working class. The other countries all have sufficient oil revenues to enable their citizens to become landlords, businessmen or civil servants; industrial jobs are done by immigrants. Because of its small oil reserves and declining service sector, the country has to turn more and more to industry for new jobs. About 4,000 school graduates come into the job market each year. By the end of the century the labor force is expected to double.[18]

Despite the Government's efforts to build new industries and have Bahrainis replace expatriate labor, the creation of new jobs is not keeping up with the flow of school leavers. There is an expanding pool of unemployed.

Government Policies

In its campaign to foster increased private sector investment the government is hoping to attract money into industry, challenging Bahrain's traditional preference for investment in trade, commerce or foreign assets. The government has also been increasingly active in a number of other areas related to industrial development. In fact, despite the existence of a relatively informal industrial policy framework, the Government of Bahrain has played an important part in sustaining the country's industrial development. It is a large investor in key industrial projects, but its main instrument of economic intervention is the bi-annual budget.[19]

As with other Gulf countries the main budgetary source of revenue has been the oil sector. Its share in Government revenue has risen from 58 percent in 1978 to about 65 percent in 1987 (Table 8).

In 1987 the government announced preliminary plans to cut back government spending over the next five years to compensate for falling oil revenues.[20] Altogether, around BD105 million ($379 million) is to be saved over the period, with the annual figure averaging BD21 million ($56 million). Recurrent expenditure will be hardest hit, but the

(18) **Ibid.**

(19) United Nations Industrial Development Organization, **Industrial Development Review Series, Bahrain** (Vienna: United Nations, 1986), p. 30.

(20) Cf. Economist Intelligence Unit, **Arabian Peninsula: Economic Structure and Analysis** (London: Economist Intelligence Unit, 1988), p. 45.

Table 8

Bahrain, Main Components of Government Revenue and Expenditure, 1982-1987

(BD million)

	1982	1983	1984	1985	1986	1987
Revenues	**560.0**	**646.0**	**548.8**	**533.2**	**467.6**	**527.6**
Oil Sector	416.5	498.0	355.4	375.0	247.2	346.0
	(74.4)	(77.1)	(64.8)	(70.3)	(52.9)	(65.6)
Duties and Taxes/ Government Services	77.0	83.5	118.5	118.9	140.1	118.8
	(13.8)	(12.9)	(21.6)	(22.3)	(30.0)	(22.5)
Other	66.5	64.5	74.9	39.4	80.3	62.8
	(11.9)	(10.0)	(13.6)	(7.4)	(17.2)	(11.9)
Current Expenditures	**297.8**	**320.7**	**328.6**	**344.2**	**346.9**	**346.0**
	[53.2]	**[58.7]**	**[61.0]**	**[67.7]**	**[71.2]**	**[66.6]**
Salaries	149.3	166.8	200.0	207.0	221.5	
	[26.7]	[30.5]	[37.2]	[40.7]	[45.5]	[216.1]
Other	148.5	153.9	128.6	137.2	125.4	147.9
	[26.5]	[28.2]	[23.9]	[27.0]	[25.7]	[27.1]
Development Expendeiture	**262.2**	**225.5**	**210.0**	**164.3**	**140.3**	**182.4**
	[46.8]	**[41.3]**	**[39.0]**	**[32.3]**	**[28.8]**	**[33.4]**
TOTAL EXPENDITURES	**560.2**	**546.5**	**538.0**	**508.5**	**487.3**	**546.4**
Deficit/surplus	**−0.2**	**99.5**	**10.8**	**24.7**	**−20.0**	**−18.8**

Sources: Ministry of Finance and National Economy, **1982-86 Development Plan**; Bahrain Monetary Agency, Annual Report, various issues.

Note: ( ) indicates percent of revenues.
[ ] indicates percent of expenditures.

government has said it will not cut jobs. Capital expenditure for non-essential development projects is also targeted for reductions, possibly by up to BD40 million ($106 million) during the five year period.

Recurrent expenditure has risen in recent years, from BD328.6 million ($874 million) in 1984 to BD346.9 million ($922.8 million) in 1986,

but capital spending has fallen over the three year period from BD210 million ($558.6 million). In a recent study on the Bahraini economy, published in September 1987, the International Monetary Fund (IMF) urged the government to reduce its public sector expenditure, which it said was wasting financial resources. The IMF noted that civil servants account for 9.6 percent of the total population in Bahrain compared with an average of 3 percent for non-oil exporting countries.[21]

The government has made some attempts to deal with the conditions brought on by the post 1982 oil price declines. In September 1986 a package of economic and legislative reforms was announced which spanned reductions in the banks' maximum lending rates and in compulsory social insurance contributions. Domestic and international telecommunication charges and municipality taxes were cut substantially, a date set for the opening of a stock exchange. re-export fees were abolished and the red tape attached to foreign worker labor permits eased.[22]

The cost of doing business in Bahrain has fallen as a result of these reforms, particularly when considered together with the recent declines in property rents and construction. The opening of the King Fahad Causeway has also initiated a slide in the cost of many consumer products to a level approaching that of Saudi Arabia.[23]

Revenue constraints and a conservative economic philosophy have made the government very receptive to domestic and foreign private investment. It has concerned itself almost exclusively with the task of providing the necessary infrastructure (water, power, good communications) and a liberal business environment to attract firms interested in regional transitions.[24] This bias is investment accounting for up to 24 percent of GDP, against government's share of 9-13 percent, while GNP totals only about four-fifths of GDP, reflecting the high level of net factor income outflows.

In 1982 Bahrain launched is first four-year economic and social development plan (1982-85). Specific emphasis was placed on development

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(21) Cited in Economist Intelligence Unit, **Arabian Peninsula: Economic Structure and Analysis** (London: Economist Intelligence Unit, 1988), p. 45.

(22) "Bahrain", **Arab Industry Review 1987/88,** p.99.

(23) **Ibid.**

(24) Arab Banking Corporation, **The Arab Economies: Structure and Outlook, second revised** (Manama, Bahrain: ABC, October 1986), pp. 34-35.

of social service infrastructure and service-related industries and on raising agricultural production. As development of the heavy industrial sector was to be up to 75 percent externally funded, it did not represent a major feature in the plan's expenditure targets. Overall aims of the plan were to forge greater cooperation between various sectors of the economy so as to optimize the use of available human and financial resources.

The specific objectives were defined as follows:[25]

1. To broaden the economic base by expanding and diversifying economic activities.
2. To increase production, particularly of agricultural livestock in order to achieve a reasonable degree of self-sufficiency in vegetables, milk products, meat and fish by reduced dependence on basic good imports.
3. To improve and expand social services in education, health and housing.
4. To rationalize consumption and encourage saving and investment in order to further invest in production and generalize development and progress.
5. To achieve complementarity and balance among the different sectors of the economy.

Investment and implementation priorities were as follows:

1. Top priority was accorded to the completion of ongoing projets.
2. Emphasis was put on productive projects and infrastructure projects such as water, electricity, housing, clothes, airport, sea-ports and communications.
3. Priority was given to the improvement and expansion of social services, particularly education and training, public health and education geared towrds development.
4. Finally encouragement was given to research and surveying to identity and develop further national material and human resources.

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(25) State of Bahrain, Ministry of Finance and National Economy, Directorate of Planning and Economic Affairs, **The Four-Year Programme of Economic and Social Development for the Years 1982-1985** (Manama, Bahrain: Government Printing house, Ministry of Information, 1982), p. 4.

The total cost of the Four-Year programme of economic and social development amounted to BD 856 million with infrastructure receiving by far the greatest share (Table 9).

Table 9

Bahrain: Economic and Social Develpment Program, 1982-86

(BD million)

	1982	1983	1984	1985	1986	Percent of Total
Infrastructure	**122.7**	**204.5**	**184.1**	**126.0**	**49.3**	**71.7**
Electricity	44.3	62.7	75.5	43.5	11.0	22.9
Water and Sewage	29.9	52.6	52.5	27.3	67.7	18.7
Housing	25.5	39.4	51.2	40.0	8.7	17.2
Roads	10.7	18.3	11.7	8.5	5.4	5.7
Ports and Airport	6.4	18.1	5.4	3.4	3.7	3.9
Other	5.9	13.4	5.8	3.3	3.8	3.4
Social Services	**15.8**	**21.2**	**16.8**	**27.6**	**28.4**	**11.5**
Education	7.4	10.6	7.1	9.4	8.6	4.5
Health	3.7	3.7	2.1	6.6	9.0	2.6
Other	4.7	6.9	7.6	11.6	10.8	4.3
Economic Services	**3.3**	**8.8**	**10.5**	**11.6**	**11.9**	**4.8**
Agriculture	2.2	3.7	2.6	3.4	7.6	2.0
Industry	1.1	3.5	6.4	5.7	1.8	1.9
Other						
Administration	**22.5**	**12.3**	**15.1**	**19.6**	**7.3**	**8.0**
Defense	21.4	9.7	10.2	9.3	3.3	8.0
Other	1.1	2.6	4.9	10.3	4.0	2.4
Other	**10.4**	**12.9**	**5.3**	**5.0**	**5.0**	**4.0**
TOTAL	**174.7**	**259.7**	**231.9**	**189.7**	**101.9**	**100.0**

Source: Middle East Economic Digest (November 25, 1983).

In addition a program amounting to BD 11 billion was sanctioned for investment in joint ventures in association with the Gulf countries. The most important of these were the Bahraini/Saudi Arabia Causeway, expansion in the activities of major existing companies and enterprises

such as the Bahraini National Petroleum Company, Aluminum Bahraini Company (ALBA), the Arab Shipbuilding and Repair Yard (ASRY) on the project of fuel transformation into light products, the Gulf Petrochemical Industries Company, the Bahraini Company for Wire and Wireless Communications, the Flour Mill Company, and the New Arab University.

The share of the industrial sector in development expenditure depends crucially upon the implementation of the joint venture projects in the steel, petrochemical, aluminum, and refining sectors. The First Four-Year Plan envisaged the provision of major infrastructure support to these projects.

In short, indusrial financing depends upon foreign capital inflows, government investments and reinvestment of profits by the private sector. The main source of investment for the new industrial projects is capital - from both the public and private sectors-from the neighboring Gulf states. Government investments are financed from oil receipts and from the other tax and non-tax revenues-the Government obtains over 60 percent of its total revenue from the oil sector and a decline in oil production is likely to have serious consequences for industrial financing.

With typical forthrightness the Bahraini authorities announced in 1984 that the 1982-86 plan was to be rephased over six years in view of the expected shortfalls in public revenue.

Conclusions

Bahrain's reputation as the most industrialized of the GCC states no longer holds, nor can it rival some of its neighbors in real terms. The small size of the local market has not fostered the same degree of light industrialization as in Saudi Arabia, for instance, nor has the government introduced the range of incentives available in the other Gulf states.

Ten years ago, Bahrain was a fast-growing confident island, respected by expatriates in the Gulf as a decent, civilized place. Now it has suffered an extraordinary demoralization, caused by economic decline, political tensions and the sense shared by all the oil states of having suddenly become much less important in the world.

Even as early as 1981 in a report published by the Minister of Development and Industry it was noted that:

"It is no wonder that the industries along the Golf have met and are

meeting great difficulties. The only two advantages cheap energy and the availability of financial funds-are eroded by the severe climate and the limited skilled and unskilled labor based on low productivity. Plans were initiated either by bankers with little idea of engineering or by engineering firms with little idea of marketing.[26]"

Industrialization undertaken in Bahrain and aimed strictly at the national market or on a non-integrated basis is handicapped by the structural and financial constraints identified above. The only areas that seem promising for the future include industries: (a) involved in gathering and or using associated gas, (b) involved in downstream operations from aluminum and petrochemicals, and (c) downstream operations from shipbuilding.

On the brighter side, the country can expect to be one of the main beneficiaries of the end of the Gulf war. Increased confidence in the region and a growth in trade and project finance should revive the banking system, one of the pillars of the economy. The reconstruction and revival in Iran and Iraq will offer fresh opportunities to Bahraini industry, particularly aluminum and steel.

Expansion of the island's heavy industry and petrochemical plants was planned long before the Gulf war cease fire began in August 1988. As a result the country expects to be able to take advantage of new opportunities in the region ahead of its rivals. This may be sufficient to temporarily revive the economy. However, longer term solutions will have to involve increased integration with the other Gulf Cooperation Council (GCC) countries.

(26) United Nations Industrial Development Organization, **Long-term Prospects of Industrial Development in Bahrain** (Vienna: UNIDO, 1981).