
Economic Development in the UAE

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Introduction

Thirty years ago the UAE was one of the least developed countries of the world. Today, it has achieved an income level comparable to that of the industrialized nations. The UAE did not pass through the hypothetical development ‘*stages*’ that most developed countries seem to have experienced. Rather, its large oil revenues have allowed her to leap these stages to the stage of high mass consumption. Massive oil revenues have enabled the UAE to short-cut the usually difficult and lengthy process of saving and capital accumulation necessary for economic development. Given an abundance of natural resource endowments (oil and gas), the UAE has embraced resource-based industries (RBI) as a development strategy, an industrial strategy that is based on utilization of natural resources. There has been a deployment of windfall income, largely directed at a ‘*once-and-for-all*’ boost to the social and economic infrastructure, which enabled the UAE to achieve a significant degree of economic development within the very brief timeframe of 1973 to 1982, a period of relatively high oil prices.

This chapter takes account of the fact that development economics cannot be separated from the institutional, social, cultural, economic and political context. It also takes into account the all-important human factor, both as a goal and a source of economic development.

Economic and Institutional Constraints

Before the discovery and export of oil, the economy of the Trucial States (which today form the UAE) depended mainly on subsistence agriculture, nomadic animal husbandry, the extracting of pearls and the trade in pearls, fishing, and seafaring. The period before the discovery of oil, therefore, reflected the country’s limited natural resources, and resulted in a simple subsistence economy.

The epoch of economic development in the UAE (or the UAE’s First Development Decade) began in the early 1970s, the federation’s formation on 2 December 1971 (and the establishment of its formal economic, social, and political institutions) coinciding with a massive increase in oil production and oil exports, followed by the explosive rise in oil prices in 1973.

Political and Social Stability

Since its formation in 1971 the UAE has enjoyed a political stability. The existing political structures appear to suit the tribal society of the UAE, and the distribution of huge oil revenues in the form of social and economic infrastructure, high salaries, a high standard of social services, such as health and education, has raised the standard of living for UAE citizens and considerably reduced the likelihood of internal political and social unrest. It is worth mentioning that the UAE Government has maintained a relatively good record on human rights since the formation of the state. This in turn has promoted political and social stability.

The UAE is an active member of many regional and international associations such as the Arab League, the United Nations, the Non-Aligned Movement, the Arab Gulf Cooperation Council, and the Organization of the Islamic Conference. Relations with many countries of the world, particularly the Western democratic countries, have been traditionally warm.

Political and social stability has gone hand in hand with liberal trade policies and has paved the way for investment (domestic and international) in the industrial sector.

Oil and Mineral Resources

The UAE is endowed with vast reserves of oil, both offshore and onshore. Associated gas from crude oil production and non-associated gas is also produced. Since the early 1970s the UAE's phenomenal growth has depended largely on the discovery and exploitation of oil. The oil and gas industries are well managed and the latest technology is continuously harnessed to increase productive efficiency.

According to the UAE Ministry of Petroleum and Mineral Resources, the UAE maximum sustainable daily capacity of oil production (maximum production rate that can be sustained daily for one year in present conditions of exploitation) is 2 million barrels a day. Its installed production capacity is over 3 million barrels per day. In 2000, proven oil reserves in the UAE were 98.8 billion barrels, the third largest oil reserves in the world after Saudi Arabia, and Iraq. The UAE's proven oil reserves were estimated to be almost 10 per cent of the proven world oil reserves in June 2000. On the basis of current daily oil production of 2.2 million barrels per day, it is estimated that oil reserves in the UAE will last for more than 122 years.

Proven gas reserves were estimated to be 6 trillion cubic metres in 2000. The UAE was estimated to have natural gas reserves equivalent to over 4 per cent of the known world gas. The UAE holds the fourth largest reserves of natural gas in the world. Daily gas production was estimated in 1999 to be 2940 million cubic feet. Gas reserves are estimated to last for more than 60 years. The UAE possesses, therefore, huge reserves of oil and gas, capable of sustaining long-term economic growth.

Other mineral resources in the UAE are divided into three categories: rocks, sands and soils, and metals. The exploitation of minerals is primarily restricted to rocks and sands. Rocks and gravel are used for construction. Limestone, sand, marl and gypsum are used to manufacture cement. There is also small-scale mining of the mineral chromite in Fujairah.

Agricultural Resources

The total area of land under agriculture and forestry constitutes less than 1.5 per cent of the total land area of the UAE. Agriculture has made only a small contribution to GDP (3.8 per cent in 1999). There has, however, been a consistent and substantial increase in the amount of land devoted to agriculture and forestry over the past 30 years as the result of sustained efforts by the UAE Government to promote agricultural development using the following incentives:

- Agricultural plots are granted free to any UAE citizen.
- Land is levelled and prepared mechanically for free.
- Production inputs such as seeds, fertilizers, and insecticides are provided at half cost.
- Water wells are drilled for free.
- There is provision of free technical services such as installation of water pumps.
- An agricultural credit line was established in 1978 to grant farmers loans for water pumps, fence wires, fishing boat engines, green houses, and drip irrigation systems. This agricultural credit attracts no interest.
- A market for produce is secured by government intervention. Small farmers are protected from foreign competition by a policy of buying the farmers' products at favourable prices.

The very limited agricultural potential of the UAE, with unsuitable land, water scarcity and harsh climate, has not been an obstacle to its economic development. Clark (1984) argues that although improvement in agricultural productivity is normally a necessary condition for successful development, there are exceptions when a developing country (particularly richly endowed with minerals) produces what he terms '*food substitutes*' – mineral or forest products, which can be exported to world markets, purchasing food imports which then partially substitute for the productivity of the country's own agriculture.

Population and Labour Force

The UAE population is essentially a small one. However, after the discovery of oil and its export in the last four decades, it has experienced very rapid growth, the result of a combination of high natural rates of increase among the UAE's indigenous population, and a massive inward migration of expatriates who now comprise more than three quarters of the population. Thus, a small indigenous population, a large expatriate population, and immense wealth generated by oil are the dominant socio-economic features of the UAE.

In addition to population size and age composition, social factors in the UAE have a great impact in determining the size of the UAE labour force. Female participation in the UAE labour force remains small, 16.3 per cent in 1999. However, incentives and legislation aim to change this situation. Greater female participation is seen as a way of increasing the UAE indigenous labour force and lessening the country's dependence on foreign labour.

A two-tier labour market has emerged in the UAE. At the top is the indigenous labour force, which constitutes about 10 per cent of the total work force. Below this is an unlimited supply of foreign labour. The UAE has reaped benefits from foreign skilled and unskilled workers, who initiated its economic development in the early 1970s and subsequently have come to sustain it.

The employment pattern in the UAE does not reflect the structure of output. The oil sector employs only 1.6 per cent of the UAE labour force, reflecting the capital-intensive nature of the industry. Nearly 39 per cent of the labour force is engaged in community, social and personal services. The unemployment rate in the UAE (0.5 per cent) is remarkably low, which means that the UAE economy is effectively at full employment.

The UAE is highly urbanized. This has been attributed to the cluster of public services, transportation and communications, financial markets and service-based industries in the cities.

Table 1. UAE's main economic indicators 1990–1999

Economic indicators	1990	1991	1992	1993	1994	1995	1999
GDP at current prices (Dh billion)	125.3	126.0	128.4	131.7	135.0	143.9	181.5
Real GDP growth (%)	11.9	-2.4	-0.9	-0.6	-2.4	-0.8	6.7
Population (million)	1.84	1.91	2.01	2.09	2.23	2.37	2.93
Total exports (fob), \$ billion	21.25	22.15	23.37	23.31	21.78	23.44	32.28
Imports (fob) \$ billion	11.69	13.92	15.83	17.75	18.25	18.98	28.33
Current account (\$ billion)	5.09	1.53	3.00	0.18	-0.72	0.36	3.94
Reserves excluding gold (\$ billion)	4.58	5.37	5.71	6.10	..	..	..
Total external debt (\$ billion)	11.05	10.20	10.80	11.07	..	..	..
Oil production mnb/d	2.12	2.42	2.29	2.22	2.17	2.22	2.28
Oil price (average) \$/barrel	..	..	18.5	16.4	14.3	15.5	18.2
Crude oil exports (\$ billion)	..	..	14.10	12.10	10.28	11.44	16.62
Exchange rate Dh:US \$ (average)	3.671	3.671	3.671	3.671	3.671	3.671	3.671
Inflation (%)	..	..	5.5	3.2	5.0	5.5	3.1

Sources: MoP (Ministry of Planning, UAE), *Annual Economic Report 1999*.
CPC (Crown Prince Court, UAE), *Development Indicators in the UAE* (1999).

Structural Changes in the UAE's Economy

Economic development can be perceived as change in the structure of the economy. Structural change refers to terms such as agricultural transformation, industrialization, demographic transition, urbanization, transformation of domestic demand and production, foreign trade, finance, and employment.

In considering structural changes in the UAE's economy, this chapter intends to identify and describe the pattern of the UAE's economic growth and to determine its achieved level of development. In taking this structural view of the economy, the chapter examines the distinct sectors of economic activity and how these sectors respond to changes in demand to which the development process subjects them. This partition of the economy into sectors permits greater understanding of the problems of development.

One clear pattern of the changing economic structure in the course of economic development is that the share of industry increases as gross output per capita rises. Following the Second World War, rapid industrialization was viewed as a prerequisite for modernization and structural change. The difference in the output and the contribution to GDP of the industrial sector in developing countries as opposed to its place in developed countries was seen as the main manifestation of economic backwardness and dependence.

While value added growth rate in the UAE oil sector was fluctuating during the period 1975–1998, the manufacturing sector value added growth rate was steadily increasing. The manufacturing value added increased considerably from Dh 472 million in 1975 to Dh 9443 million in 1985, and to Dh 18,855 million in 1998 (at constant prices). Its contribution to GDP increased significantly from 0.9 per cent in 1975 to 3.8 per cent in 1980, and to 12.4 per cent in 1998. Nonetheless, it is obvious that the substantial increase in the manufacturing value added has made a modest contribution to the UAE's total output growth.

Agricultural production increased more than fourfold from 1975 to 1998 at an average annual growth rate of 12.6 per cent. This consistent increase in the agricultural output is attributed to the sustained efforts of the UAE's Government to promote agricultural development with generous agricultural incentives and subsidies. Changes in the contribution to GDP of the non-oil sector (agriculture), however, increased at a moderate rate. In 1998, the agricultural sector comprised about 3.6 per cent of GDP.

A conspicuous sectoral shift and contribution to GDP is evident in the service sector, commerce (wholesale and retail trade), restaurants, hotels, transport, storage, communications, finance, insurance, real estates and government services. The service sector contribution to GDP increased from 22.3 per cent in 1975 to 39.7 per cent in 1998.

Table 2. Relative importance of UAE's main economic sectors 1975–1998

(percentage of GDP)

Sector	1975	1980	1985	1995	1998
Agriculture	0.7	0.9	1.5	2.0	3.6
Crude oil	67.7	56.4	44.0	41.1	22.4
Manufacturing	0.9	6.9	9.2	8.7	12.4
Electricity and Water	0.5	1.3	2.2	2.1	1.8
Construction	9.0	8.3	8.8	8.4	9.4
Commerce, restaurants and hotels	9.3	9.0	8.8	10.1	13.7
Transport, storage and communications	3.0	3.4	3.8	5.5	7.0
Financing & insurance	1.6	3.5	5.1	4.3	6.7
Real estate	2.5	3.8	4.9	6.2	10.5
Government services	4.8	7.0	10.5	10.9	11.8

Sources: MoP (Ministry of Planning, UAE), *Economic and Social Indicators in the UAE, 1975–1985*, (1987).

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Structural Change in the UAE's Employment Patterns

The service sector, which includes trade, restaurants, hotels, transport, storage, communications, finance, insurance, real estate, business services, community, social and personal services, ranks first in size of employment (58 per cent of the labour force), which reflects its powerful dominance in the UAE. The share of employment in the service sector increased from 51.91 per cent in 1975, to 56.97 per cent in 1980, and to 57.9 per cent in 1998, corresponding to the increase in the sector's real output over the same period 1975–1998.

The service sector value added comprised the second largest value added (after the oil sector) in the UAE's GDP in 1998.

The agricultural sector employed 7.4 per cent of the UAE labour force in 1998, the fourth ranking sector in labour force distribution. Its employment share increased from 4.55 per cent in 1975 to 7.4 per cent in 1998, corresponding to a steady increase of real output over the same period.

Although the manufacturing sector accounts for a low proportion of employment (12.6 per cent of the labour force), its share of employment increased from 5.83 per cent in 1975 to 7.41 per cent in 1985, and to 12.6 per cent in 1998, matching an increase in real output over the same period.

In employing 1.6 per cent of the labour force, quarrying, petroleum extraction and mining sector was ranked last in share of employment, despite its paramount importance in the UAE economy, reflecting the fact that the oil sector is highly capital-intensive.

Industrialization

In the process of economic development, industrialization has been considered crucial to the transition. Industrialization is linked to the idea of stimulating forward and backward linkages with the rest of the economy. In addition, industrialization creates new employment opportunities. In common with other developing countries, the UAE, whose economy has been significantly dependent on the export of one primary product, namely oil, pursued a strategy of industrialization to diversify the sources of its national income and reduce its dependence on oil.

The main factors which have acted as a constraint on UAE industrial development are limited raw materials, and the size of the domestic market. On the other hand, the abundance of natural mineral resources, the ready availability of financial capital, a well-established infrastructure, a flexible labour and employment policy, the availability of cheap energy, industrial zones and various incentives in legislation, plus political and social stability have been the main resource and incentive for UAE industrialization.

From the UAE Industrial Survey of 1988, 1992 and (MoFI 1988, 1992, 1996), the pattern of industrial establishments can be summarized as follows:

- The first industrial establishment in the UAE, in the emirate of Dubai, was a small workshop for steel boxes and containers, established in 1950.
- The period from 1951 to 1958 did not witness the establishment of any industrial firm.
- The increase in industrial establishments began in 1959, the period coinciding with the discovery of oil in the emirate of Abu Dhabi.
- 1977 was a golden year in UAE industrial development, in which 84 new industrial establishments were recorded, the highest number of industrial establishments in a single year during the period 1950–1992.
- The number of industrial establishments grew at an increasing rate during the period 1959–1977.
- From 1978 to 1995, however, the number of industrial establishments grew at a decreasing rate.

To some extent industrialization in the UAE has broadened the base of the economy, as shown by increased industrial productivity; a diversification of exports to more than 184 industrial products, and an increase in the value of industrial exports from Dh 11 million in 1975 to Dh 539 million in 1980, Dh 4825 million in 1985, and to Dh 8070 million in 1990 (in constant prices). Nevertheless, industrialization in the UAE has not reduced significantly the economy's reliance on oil (Shihab 1990).

Human Development Indicators

The main human development indicators in the UAE can be analysed at two levels: a) nationally over time and b) internationally (or cross-sectionally), comparing performance with both developing and industrial countries. The first level, nationally over time, enables us to explore the rate, structure, and character of human development in the UAE. The latter, internationally, enables us to examine the degree of human development in the UAE compared to both developing and developed countries.

At the national level, the UAE has achieved impressive improvements in many human development indicators during the past three decades. At the international level, the UAE has recorded high levels of development bearing comparison with the average of the developing countries, and even with some individual industrial countries.

Educational Institutions

A positive relationship between education and economic growth is well-established. Education and training are viewed as major determinants of increasing productivity, and as a factor diffusing growth. Education is considered a key element in developing the necessary skill levels for growth and modernization in the UAE. The UAE Government offers free education to all UAE citizens, and Arabic-speaking children of expatriates employed in the public sector.

Educational institutions in the UAE consist of public and private sector schools, military schools, higher education and vocational training establishments. The existing educational structure was established in the early 1970s and consists of a four-tier system covering 14 years of education, as follows: kindergarten (4–5 years old); primary (6–11 years); intermediate (12–14 years) and secondary (15–17 years). For higher education (i.e. undergraduate, Master and Ph.D. programmes) UAE citizens are entitled to choose between study in the Emirates University or abroad through a generous scholarship system. Primary school education is compulsory for all UAE citizens. Government policy is to provide staff/student ratios of 1:20 at kindergarten and primary levels and 1:15 at intermediate and secondary levels. The existing staff/student ratios are well within this proposed range. (The staff/student ratio of kindergarten and primary levels is 1:17; intermediate and secondary levels is 1:10).

The Higher Colleges of Technology, located in several emirates, were established in 1988 and are aimed at offering courses of three years' technical training in skills such as business administration, accounting, banking, information systems, computers, engineering, aviation technology, and health sciences.

Encouraged by financial incentives, government civil servants are required to attend yearly at least one seminar (at local or international level) within their respective fields as a condition for future promotion.

In his influential article, Schultz (1961) stressed the role of education in development. He maintained that education could be considered as a process of accumulating capital, which could increase a worker's productivity and income. He referred to this investment in education as an investment in '*human capital*'. Human capital is defined as a productive investment embodied in human resources. Improved skills and health result from expenditures on education, training programmes, and medical care. As indicated by Chatterji (1994), the skill level of the workforce in any economy is a factor that has an important bearing on economic performance.

Carnoy (1967) concluded that education and income are highly correlated at both individual and social levels. People intuitively recognize this fact and consequently try to become as educated as possible. The more schooling and certificates people can accumulate, the better will be their chances of obtaining secure and better-paid jobs. This desire for well-paid jobs has created demand for education as a mean of economic improvement.

On the supply side, a country's political institutions determine:

- The quantity of schools and classrooms at the primary, secondary, and university levels.
- Who is admitted to these schools.
- The kind of education and instructions (values, attitudes, ideas, and aspirations) students acquire.

Current concern, however, centres upon how to improve the quality of education (teaching, facilities and curricula) and how to provide basic education to the vast majority of the population. Behrman and Birdsall (1983) indicate that it is the quality of education and not its quantity alone (years of schooling) that best explains differential earnings and productivity.

Health Services

Many developing countries struggle against malnutrition and poor health. Expenditure on health has been regarded as investment in human capital (Mushkin 1962). Anand and Ravallion (1993) conclude that the quantitative effect of public expenditure on health appears to be sizeable.

The relationship between health and economic development is reciprocal. Economic development policies tend to improve the health status of the population. Better health contributes to economic development. Better health is an important goal in its own right, and is a basic human need. Health increases human potential and improves the quality of human resources. Health programmes, therefore, aim to cut morbidity and mortality, and to provide adequate nutrition, health care and sanitation.

The UNDP's 1995 report estimated that 99 per cent of the overall population of the UAE had access to health services (the percentage of the population that can reach appropriate local health services on foot or by the local means of transport in no more than one hour), 95 per cent of the population had access to safe water, and 77 per cent of the population had access to sanitation (for the period 1985–1993).

The UAE Government's health policies aim at providing a range of facilities and at implementing programmes aimed at advancing the level of service and health education throughout the UAE. There are also preventative medical programmes such as 'mother and child health care', vaccination and inoculations for children, monitoring and notification of infectious diseases, and health educational programmes.

In addition, the UAE Ministry of Health (MoH) provides special medical centres for school children, and health units in every school throughout the UAE. These health units are provided with qualified nurses as well as first aid equipment. Hospitals, beds, doctors and nurses are located throughout the UAE, mainly in accordance with the distribution of the population. Health facilities are, in general, evenly distributed.

There are also a large number of private health facilities. The private health sector makes a significant contribution to the provision of health facilities in all parts of the UAE. Its main contribution consists in the supply of materials, drugs and equipment to the Ministry of Health and private retail outlets. In addition there is a large number of private clinics, medical complexes, hospitals and pharmacies. The main noticeable growth in private sector health services has been in the number of general clinics. As is shown in Table 3, the number of private clinics not only has exceeded the number of public clinics, but has increased from 50 in 1975 to 174 in 1980, to 456 in 1985, to 675 in 1990, and to 896 in 1997.

The number of hospitals (public and private) increased from 19 hospitals in 1975 to 42 hospitals in 1990 and to 57 hospitals in 1997. This increase has been associated with increases in the number of hospital beds. In 1975, for example, there were 1745 hospital beds; by 1997 hospital bed numbers had risen to more than 6334 beds.

Numbers of doctors (general physicians) increased from 751 in 1975 to 2766 in 1997. Dentists increased from 65 in 1975 to 220 in 1997. The number of nurses rose from 1555 in 1975 to 7695 in 1997. According to the *Human Development Report 1995*, there was a doctor per 1042 persons and a nurse per 568 persons (1988–1991).

Table 3. Health services in the UAE (1975–1997)

Indicators	1975	1980	1985	1990	1995	1997
Hospitals	19	27	40	42	51	57
Beds (hospital)	1745	3872	5817	6297	6365	6634
General physicians	751	1484	1301	1493	2362	2766
Dentists	65	141	173	185	238	220
Nurses	1555	4346	6327	7130	7547	7695
Pharmacists (public)	60	117	190	237	302	325
Public clinics	38	69	107	118	126	125
Private clinics	50	174	456	675	798	896
Population/bed	320	269	237	288	374	604
Population/doctor	743	702	1247	1236	1212	1238
Population/nurse	359	240	339	438	313	454

Sources: MoH (Ministry of Health, UAE), *Statistical Yearbook (1997)*.
MoP (Ministry of Planning, UAE), *Economic and Social Indicators in the UAE, 1990–1995 (1998)*.
UNDP (United Nations Development Program), *Human Development Report 1999 (1999)*.

In short, advanced health care has done much to lower mortality levels in the UAE and as a result mortality rates have declined substantially. The crude death rate, deaths per thousand of the population, decreased from 7.3 per 1000 in 1975 to 4 per 1000 in 1992, and to 2.1 per 1000 in 1997. Infant mortality rate (i.e. the number of children who die before their first birthday out of every 1000 live births) fell in the UAE from 145 per 1000 in 1960 to 65 per 1000 in 1975, to 54 per 1000 in 1980, to 19 per 1000 in 1992, and to 9 per 1000 in 1997. On the other hand, life expectancy at birth, the average number of years members of a given population are expected to live, rose in the UAE from 53 years in 1960, to 65 years in 1975, and to 74.8 years in 1997.

It can be argued that the UAE has high health standards compared with other developing countries and even with some developed countries (see Table 4). Measures of malnutrition, mortality and morbidity show impressive improvement in the last two decades. Epidemics have been eliminated and diseases have declined as causes of death. Both crude and infant death rates have fallen, and life expectancy had risen to 74.8 years by 1997. Credit for continued improvement since the formation of the UAE in 1971 belongs primarily to the UAE Federal Government, which has consistently accorded a high priority to improving the health of its population.

Table 4. International human development comparisons 1997

Indicator	UAE	All Developing Countries (average)	All Industrial Countries (average)
Real GDP per capita (\$)	19,115	3,240	23,741
Human Development Index (HDI)	0.812	0.637	0.919
Life expectancy (years)	74.8	64.4	77.7
Maternal mortality rate (per 100,000 live births)	26	491	13
Infant mortality rate (per 1000 live births)	9	64	6
Adult literacy (%)	74.8	71.4	98.7
Population with access to health services (%)	90	..	..
Daily per capita supply of calories	3,366	2,628	3,377

Source: UNDP, Human Development Report, 1999.

Conclusion

The UAE is a very wealthy country, mainly due to its modest population base and huge oil resources. The large budget surpluses achieved have enabled the UAE to accumulate a sizeable current account balance, held mainly by the governments of the individual emirates and partly by other private establishments. Progress has been favourable in social and economic development. The successful implementation of human development policy in the UAE, hand in hand with industrialization, urbanization and modernization, is one of the rare examples of a country which has successfully used income from its huge natural resources for its long-term development over a very short period (from the early 1970s to late 1990s).

It is clear that the UAE has achieved impressive improvements in many social and economic development indicators during the past three decades. This chapter emphasizes the high levels of human development in UAE, together with a relatively good record on human rights. These are goals which must still be borne in mind in attempts to sustain national development.

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