Implications of oil revenue allocation for the Iranian economy 1953-77

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IMPLICATIONS OF OIL REVENUE ALLOCATION FOR THE IRANIAN ECONOMY 1953-77

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Thesis submitted for the
Master of Arts degree in
Economics at the
University of Durham.

November 1985

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ABSTRACT

The Iranian economy during the 1953-77 period is the subject of this thesis where the implications of oil revenue allocation for the country's economy is examined in detail.

The development of the all-important oil sector is studied in depth and its inter-action with the newly-established modern industrial sector and the rest of the economy is assessed. The relationship between investment in industry and agriculture and oil revenue is examined. The overall economic development of the country is reviewed, especially the progress of the strong traditional sector and the relatively new modern sector. Having analysed these various aspects of the economy it was possible to establish whether any linkages existed between the oil industry and other sectors of the economy.

Iran was an excellent case to study as it displayed many of the characteristics of an under-developed economy, yet it had its financial constraints suddenly removed as a result of increased oil revenue. However, due to its inadequate infrastructure the Iranian economy faced considerable problems and the level of economic development that had been hoped for did not materialise.

ACKNOWLEDGEMENTS

I would like to express special thanks to my supervisor, Dr. Wilson, for his valuable help and advice throughout the period of this thesis.

Many thanks are also due to Mrs. J.A. Stamp who has showed much willingness and patience in typing this thesis for final presentation.

Finally, I would like to thank my husband, Behzad, who has supported me in my work and helped me gain better understanding of the Iranian people and their customs.

CHAPTER ONE

INTRODUCTION

This thesis is a study of the Iranian economy during the 1953-77 period with specific emphasis on the implications of oil revenue allocation for the country's economy.

The objective of this study is to explore the inter-action between the foreign-orientated and all-important oil sector and the other sectors of the Iranian economy. Investment in industry and agriculture in relation to oil revenue will be examined in detail in chapters four and five respectively. The development of the oil industry itself will be discussed in chapter three. The question will be addressed of whether the increases in oil revenue, as a result of the oil price rises of 1973-74, led to greater investment and development of the economy. Chapter six deals with economic development under dualistic conditions, that is in an economy with a strong traditional sector and a newly-established modern sector. The chapter will discuss whether linkages existed or were established between the different sectors of the economy as a result of increased oil revenue expenditure and the establishment of the modern sector.

Iran presents an excellent case of a developing country which, having been deprived of the beneficial effects of its oil sector for several decades, found a way to make up for the past and use the oil industry as a direct and indirect instrument to enhance its development. As compared with other oil producing countries in the Middle East, Iran has a very large population (35 million) and considerable development potential. The population was reasonably well educated and its physical resources were considerable. It is

therefore quite clear that Iran had a great advantage over many other developing countries not only in terms of having fewer financial constraints but also in terms of its human and physical resources. So why is Iran not more developed than other developing countries with fewer resources and financial constraints? Some tentative answers to this question are suggested in the thesis.

Iran has a very strong traditional sector with the carpet weaving industry a major activity. In the sixteenth century the city of Esfahan had more workshops than Paris, Europe's most populated and developed city. Hence why did Iran fall behind Europe, given its historical strengths? One possible answer could be that Iranians have always had a small business mentality which was strongly influenced by Islamic values. The Prophet Mohammed was a small trader himself, and this mentality still remains. Iran had greater development potential than Japan, which did not have any significant resources. Other governments, such as that of Japan, developed large enterprises and pushed forward economic development, with their nations support. The Iranian nation did not give the Shah, in his develoment drive, such full support. Many believed that his policies were unsuitable for the Iranian economy. No advantage was taken of the country's vast human resources but instead highly capital-intensive industries were set up. These did not encourage the production of intermediate goods or any technological transfers.

During the 1953-77 period there was a lack of capital accumulation in the Iranian economy. Those with private funds were often unwilling to invest in their own community simply because they lacked faith in the economy and distrusted the authorities. Therefore the Iranian government had to act alone as the main financier of

development. In this thesis a study will be made of whether the government allocated its resources in the most appropriate direction. Did the allocation assist in the country's development or was there a degree of withholding of the available resources? Iran is an interesting case study because during the latter part of the 1953-77 period the time and conditions seemed to be right for the take-off stage of the country's development and self-sustained growth. Capital was available although encouraging capital accumulation independently of the oil sector was difficult. The reasons why the authorities were unsuccessful in translating once and for all oil revenue expenditure into self-financing development will be explained in the thesis.

In writing this thesis on the Iranian economy one was confronted with the problem of the availability and consistency of quantitative data. However, the data that was available was utilised and some estimates were made to fill in the gaps where necessary. How accurate the data is it is difficult to comment on, but the data used was to give some indication of the economic trends during the period. Another problem was that of the lack of data on many occasions for the overall period. In spite of these difficulties it was possible to analyse the overall development of the different sectors of the economy. The trends shown are essentially correct but caution must be exercised in interpreting data in any exact sense.

CHAPTER TWO

OIL REVENUE

2.1 INTRODUCTION

Oil has a prominent place in the Iranian economy. It is important in terms of government revenue and the country's foreign exchange earnings. High oil revenue was the main reason for Iran's remarkable growth during the years of the Shah's rule. The oil revenue is divided between the Treasury General and the Plan Organisation. The share of oil revenue in development expenditure in Iran increased from 59 per cent in 1963 to 80 per cent in 1972, which indicated its significance for the government's industrialisation programme. However, after the 1973 oil price increases, the share of oil revenue allocated to development planning declined. This decline did not mean a change in government priorities but rather showed the inability of the infrastructure of the country to absorb such a large inflow in such a short period of time. Simultaneously, defence expenditure increased dramatically and a series of social policies were undertaken by the government through its current budget.

In order to understand the development and achievements of the Iranian oil industry over the 1953-77 period it is necessary to briefly look at the industry's history. This will enable an anlaysis to be made of the role the Iranian government played in the industry's development and achievements.

The Iranian oil industry was nationalised in 1951 after a serious dispute with the Anglo-Iranian Oil Company (AIOC) and the British government who owned a 51 per cent share in AIOC. Prime Minister Mossadegh, in his attempt to nationalise the industry, was prepared to

compensate AIOC, but the British government doubted Iran's ability to pay full compensation. Mossadegh also pledged that 'the specialists, employees and workmen of the former oil company, Iranian as well as foreign, shall continue in employment as before and shall be regarded from this date as employees of the National Oil Company of Iran'. [1]

The British government went as far as the International Court of Justice, in 1951, to request an injunction to prevent Iran from seizing the AIOC property. They were unsuccessful in their request. The dispute accelerated further and by the end of 1951 the British government adopted a new course of action which the British Foreign Office called 'economic measures designed to protect the United Kingdom's economy'. This new course of action included the withdrawal of privileges previously held by Iran to convert sterling into dollars. Meanwhile, Iran suffered from a lack of oil revenue due to an economic blockade organised by the oil companies. In spite of this, however, the Iranian government was able to have a balanced budget for the first time since 1948. Having said that, imports fell considerably and the government received its revenue mainly from its export earnings other than oil. The Iranian government began to take counter-action against Britain.

The dispute escalated even further. Mossadegh stood firm in his belief that the oil issue was an Iranian internal affair and no international body had the right to interfere. Diplomatic relations with Britain were withdrawn on 12th January 1952. Even though the economic measures taken by Britain against the Iranian government were ineffective, the organised boycott of Iranian oil had a greater impact on Iran's social and political stability. In this first attempt to take over control of production levels from the oil companies and

hence revenues, Iran was not as successful as Mossadegh had hoped for in his bid to nationalise the oil industry. Iran was unable to attain this objective until 20 years later.

With the assistance of the United States Central Intelligence Agency (CIA), Mohammad Reza Shah Pahlavi was restored to power in the summer of 1953. This marked a new era in Iran's relations with the foreign oil companies. An agreement was signed on 29th October 1954 with the eight major oil companies forming the Oil Consortium. The Consortium was given the right to explore, produce, refine, transport and sell oil from the so-called Agreement Area, located in southern Iran. The role of the National Iranian Oil Company (NIOC), which was established at the time of nationalisation, was obviously diminished with this agreement. NIOC was now more a company registered on a piece of paper rather than actually being involved in direct operations. This was far from the idea Mossadegh had in mind. The 1954 Agreement may have been regarded as a good agreement on behalf of the foreign oil companies but as far as the Iranian economy was concerned, it did not bring the benefits it could have done. The Iranian oil industry was once again in the hands of the foreign oil companies. The industry expanded considerably over the 1953-77 period but it was not until 1973 that NIOC took control over the Consortium's operations and therefore controlled for the first time in the history of the oil industry, the level of production. [2]

Now that a brief history of the Iranian oil industry in the early 1950s has been given, the contribution of oil revenue to the Iranian economy can be addressed against this background. Firstly, the relationship between production and revenue will be discussed. Secondly, the relationship between prices and revenue will be

examined. Thirdly, the relationship between production and foreign exchange will be considered. Fourthly, and finally, the relationship between prices and foreign exchange earnings will be discussed.

2.2 PRODUCTION AND REVENUE

During the 1953-77 period Iran, unlike some Arab producers such as Kuwait and Algeria, did not adopt a conservation policy to preserve its exhaustible asset, oil, for a longer period of time. Iran instead pushed for more oil lift by the major oil companies, the Consortium group, in order to finance its large-scale economic and military plans. The Shah's aim was to transform the country, through rapid industrialisation, into a regional economic and military power before the country's reserves were exhausted. It was hoped that by that time, the country would have reached the stage of development where growth would be self-generating and self-sustaining.

During the period 1953 to 1978 the number of oilfields increased from five to 35 respectively. Both production and export facilities were expanded greatly. Kharg Island was linked by a series of pipelines to the various oilfields, and it became the world's largest oil loading terminal. The major oil producing region is based in the south western part of Iran, which, in the late 1970s, accounted for 90 per cent of Iranian crude oil production. [3]

Production of oil increased progressively over the 1955-77 period. According to the Iranian crude oil production statistics shown in Table 2.1, from an annual production of 120.8 million barrels in 1955, output rose constantly reaching 1,231.8 million barrels in 1969. By then Iran had become the largest producer of crude oil in the Middle East as it accounted for 27.3 per cent of total production

of crude oil in this region. The output of crude reached its peak in 1974 when 2,197.8 million barrels were produced but production fell by 11.2 per cent in the following year.

TABLE 2.1

IRAN'S CRUDE OIL PRODUCTION AND OIL REVENUE, 1955-77

Year	Annual production of crude oil (million barrels)	Annual rate of increase (%)	Oil revenue (1970 prices, billion rials	Annual rate of increase (%)	Revenue per barrel (rials)
1955	120.8	-	10.1	-	83.6
1956	195.5	63.5	14.3	41.6	72.4
1957	263.4	33.4	20.0	39.9	75.9
1958	301.4	14.4	24.2	21.0	80.3
1959	338.8	12.4	24.9	2.9	73.5
1960	385.7	13.8	26.6	6.8	69.0
1961	431.9	12.0	26.7	0.4	61.8
1962	479.9	11.1	30.9	15.7	64.4
1963	538.1	12.1	34.5	11.7	64.1
1964	618.7	15.0	41.9	21.5	67.7
1965	688.2	11.2	43.4	3.6	63.1
1966	771.2	12.1	51.9	19.6	67.3
1967	947.7	22.9	63.9	23.1	67.4
1968	1,042.2	10.0	70.6	10.5	67.7
1969	1,231.8	18.2	72.4	2.5	58.8
1970	1,399.7	13.6	84.7	16.9	60.5
1971	1,656.9	18.4	133.1	57.1	80.3
1972	1,838.5	11.0	163.1	22.5	88.7
1973	2,139.3	16.4	238.2	46.0	111.3
1974	2,197.8	2.7	992.5	316.7	451.6
1975	1,952.7	-11.2	828.9	-16.5	424.0
1976	2,153.0	10.3	892.0	7.6	414.3
1977	2,050.9*	- 4.7	727.0	-18.5	354.5

* estimated figure

SOURCE National Iranian Oil Company and Bank Markazi, Iran, Annual Reports and Balance Sheets, 1955-77

It should be noted at this point that even though production increased during the 1955-73 period the increase was not as great as the Iranian government wanted. They wanted to expand production in order to increase oil revenue but during this period the government was not in control of the production level. As already indicated the Corsortium was in control and they were unwilling to expand production any further. Despite this situation there was not necessarily a conflict of interest between the Consortium and Iran as far as production was concerned but there was a conflict of interest regarding prices. This will be discussed in section 2.3. The Consortium was happy to expand production to the level shown in Table 2.1 as they believed it would keep down world prices to some extent and encourage demand. Iran, although the Shah could be troublesome, was regarded as a stable source of supply, and some oil companies, BP in particular, were heavily dependent on supplies from Iran to maintain their world market share. Iran did, however, gain control in 1973 when NIOC took over the whole of the Consortium's operations. [4]

Altogether in the 23-year period, 1955-77, more than 23,700 million barrels of crude oil were produced from Iranian on-and-off shore reservoirs. As Table 2.1 shows 10,500 million barrels of oil were produced during the last five years of the period, which is a 26 per cent greater output than was produced in the whole of the 1955-70 period. This vast output of limited oil reserves had an incalculably negative impact on reservoir pressure. Although dramatic and alarming pressure drops were reported in these years, output was increased instead of being reduced. It should be noted at this stage that reservoir pressure is directly related to the amount of recoverable 'oil in place', and by reducing reservoir pressure too

rapidly as a consequence of excessive production, future reservoir efficiency is jeopardised. Hence as a result of excessive production during the 1973-77 period not only were available oil reserves depleted at an uncommensurate pace but also future recovery potential was irrepairably impaired. [5]

The question of whether there was any need for such a substantial output within such a short period of time, as the 1973-77 period, can be raised. During the period Iran's oil revenue increased considerably as a result of the 1973-74 oil price increases, and in these circumstances it might have been worthwhile to reduce production significantly. The Shah was however anxious to develop the Iranian economy as soon as possible before the oil resources were exhausted. But paradoxically the policy he carried out brought exhaustion closer. The Shah believed that he had to take advantage of the oil price increases that took place in the 1973-74 period, hence he pushed for as much output as possible. The moment had come for Iran to increase its oil revenue within a relatively short period of time which would enable the Shah to enhance the country's development fairly quickly. The Shah may have realised that this situation was not to last for long. He was faced with conflict between the opportunity of high prices on one hand and the detrimental effect on oil levels on the other. He decided on the first choice.

This sudden increase in oil revenue had both advantages and disadvantages. The advantage was that the terms of trade improved greatly at the beginning of the 1973-77 period. The disadvantage was that the rate of inflation increased considerably and, as stated in the introduction above, the economy was unable to absorb such large inflows within such a short period of time due to its limited

infrastructure and supply bottlenecks. It may have been more advantageous if the same amount of revenue had been obtained over a longer period of time. The rate of inflation would most likely have been lower and the oil revenue would have been used more effectively for the development of the country.

One can also speculate at this stage what actions would have been taken if Mossadegh had been in power. There is no doubt that pricing pressures would have come sooner than 1973 and production levels may have been deliberately varied in a bid to influence prices. Production levels may have been lower over the period as a whole. This may have been due to conservation policies by Mossadegh himself, or perhaps because of continued resistance by the Western oil companies to the marketing of Iranian oil. If the companies had been able to substitute other sources of supply for Iranian oil, then Mossadegh's supply limitations to raise prices would not have worked. These speculations can raise the issue of whether the nationalisation of the industry was necessary after all in terms of control of production levels. As far as the Shah was concerned if prices had risen earlier, the situation would have been taken advantage of by increasing production even further than was actually the case. This would have brought exhaustion of oil reserves even closer.

The 1973-74 period when crude oil production was at its highest was perhaps one of the most signficiant years in the 1953-77 period of the Iranian oil industry. Oil revenue increased from Rials 238.2 billion in 1973 to Rials 992.5 billion in 1974, or by 316.7 per cent as Table 2.1 shows. Oil revenue had been increasing steadily over the 1955-73 period but the vast increase during the 1973-77 period was unexpected. How great was the need for increased government revenue

in this period? The government was running a slight budget surplus in 1969 and 1970 but in 1972 and 1973 the government was running a budget deficit. The need for greater revenue was clear, especially if the development of the country was to be enhanced. Nevertheless the actual revenue increase over the 1973-74 period was much greater than what was actually needed, and production could have been at a substantially lower level and a balanced budget still maintained.

How great a contribution did production make to this increase in oil revenue? Table 2.1 shows that the increase in production contributed a great deal to the continuous increase in revenue up to 1973. This indicates that oil prices played a minor role in determining oil revenue until that year. This trend, however, seems to change in the 1973-74 period when the production of oil slowed down whilst there was a boom in oil revenue. Oil revenue increased by 316.7 per cent but the production of oil increased by a mere 2.7 per cent. Hence this increase in oil revenue can be attributed to the oil price increases of 1973-74 which will be discussed in the following section.

2.3 PRICES AND REVENUE

Iran's role as an oil producer has been increasing over the years. Table 2.2 shows Iran's share in the crude oil production of the Middle East, OPEC and the World over the 1955-76 period.

Iran became a member of OPEC in 1962. OPEC was initially created as an instrument for the stabilisation of crude oil prices. It was regarded from the outset as a prototype for an international commodity agreement for exporters of raw materials from the Third World. As has been noted, there was a conflict of interest with regard to prices

between the oil companies and Iran during the 1955-73 period. OPEC, which was formed to prevent price falls and ultimately raise prices, was ineffective in its objective until 1973, the year Iran took control of its production levels. During the 1955-73 period the Consortium had wanted lower prices in order to sell more, whereas Iran wanted higher prices - an argument for conservation could be raised here. When prices did increase, however, in 1973 it was argued that these price rises would eventually curtail demand. By 1976 when prices were high, and Iran was in control of its production levels, the country could not market its oil. Price rises had indeed curtailed demand as the oil companies feared.

TABLE 2.2

IRAN'S SHARE OF CRUDE OIL PRODUCTION OF THE MIDDLE EAST, OPEC AND THE WORLD
(%)

Year	Middle East	OPEC	World
1955	10.3	-	2.0
1956	15.8	-	3.0
1957	20.7	-	4.0
1958	19.6	-	4.4
1959	20.5	-	4.6
1960	20.2	-	4.8
1961	21.3	-	5.1
1962	21.6	13.3	5.2
1963	21.7	13.4	5.6
1964	22.3	13.9	6.0
1965	22.7	14.2	6.2
1966	22.8	14.8	6.4
1967	26.1	16.5	7.3
1968	25.5	16.1	7.4
1969	27.3	16.6	7.9
1970	27.7	17.3	8.1
1971	28.2	18.1	9.2
1972	28.1	18.9	9.6
1973	28.0	19.0	10.3
1974	27.8	19.6	10.5
1975	27.6	19.8	9.9
1976	26.9	19.3	10.2

SOURCE British Petroleum Statistical Yearbook and NIOC

The first step toward increasing OPEC power and influence was the 1971 Tehran Agreement whereby there was a signficant shift of power from the companies and consumers to the producers. The international oil market ceased to be a buyer's market. The Tehran Agreement was, however, a negotiated agreement with the Shah representing the Persian Gulf nations. This agreement broke down in 1973 when OPEC decided to increase its prices. The Tehran Agreement was a complex agreement which for the first time provided for compensation to producers for the loss of the purchasing power through inflation and dollar fluctuations. In money terms it meant a major 30 per cent per barrel increase, rising over a five year period to 50 cents. The unilateral price increases, however, decided by OPEC, with Iran being the main advocate of these price increases, were implemented in two stages in the last quarter of 1973 and these were followed by continuous price increases in 1974. This meant that the 1971 Tehran Agreement was broken. The result of these price increases was that the government take per barrel of 85 cents in 1970 rose to $10.12 by 1975 - a twelvefold increase in the span of five years. [6] Table 2.3 shows crude oil prices in Iran over selected years.

To test whether the demand for oil is responsive to price, elasticities were estimated. The price elasticity of demand for Iran's oil was calculated by using the following formula:

$$Q = aP^b$$

and then put into the following logarithmic form:

$$\log Q = \log a + b \log P$$

Table 2.4 shows the results:

TABLE 2.3

CRUDE OIL PRICES IN IRAN BY TYPE OF CRUDE AND GRAVITY° API AT KHARG ISLAND
(US$ per barrel)

Year		Iranian Light (34.0-34.09)	Iranian Heavy (31.0-31.09)
1954	(29 October)	1.860	1.670
1957	(28 May)	1.990	1.800
1959	(13 February)	1.810	1.620
1960	(1 August) [a]		1.670
	(16 August)		1.630
1965	(12 November) [a]	1.790	
1970	(14 November)		1.720
1971	(15 February)	2.170	2.125
	(1 June)	2.274	2.228
1972	(20 January)	2.467	2.417
1973	(1 January)	2.579	2.527
	(1 April)	2.729	2.674
	(1 June)	2.884	2.826
	(1 July)	2.940	2.881
	(1 August)	3.050	2.989
	(1 October)	2.995	2.936
	(16 October)	5.341	4.991
	(1 November)	5.401	5.046
	(1 December)	5.254	5.006
1974	(1 January) [b]	11.875	11.635
	(1 November)	11.475	11.235
1975	(1 October)	12.495	12.360
1976	(14 February)		12.258
	(9 June)		12.183
1977	(1 January)	13.774	13.430

[a] Initial posting, prior to this date posted at Abadan.
[b] From 1 January 1974 to 30 September the gravity differentials are 0.5 cents per barrel per 0.1° API above or below gravity range shown.

SOURCE OPEC Statistic Unit, Annual Statistical Bulletin, 1978, p 124

TABLE 2.4

PRICE ELASTICITY OF DEMAND FOR IRAN'S OIL

PERIOD	log a	b log P	R^2
1957-67	9.468	-6.484 P	0.4168
	(7.298)	(-2.536)	
1967-77	7.021	0.267 P	0.674
	(68.34)	(4.314)	
1957-77	6.174	0.632 P	0.487
	(33.257)	(4.251)	

Note: a is the intercept parameter, b the price elasticity of demand, Q the quantity demanded, and P the price. R^2 is the coefficient of regression - figures in parenthesis are t values.

The results show that for the 1957-67 period the price elasticity of demand was -6.484. Hence as price fell the demand for oil increased. This shows the case the Consortium tried to make in this period. They believed that by keeping prices down demand for oil would increase. It should be noted, however, that an R^2 of 0.4168 shows that fluctuations in prices can only explain 42 per cent of the fluctuations in demand hence the remaining 58 per cent must be explained by other factors. The results for the 1967-77 period on the other hand point to different conclusions. In this case a price elasticity of demand of 0.267 shows that there is not a trade-off whereby one would expect demand to fall as the price rises. In this latter period demand rose irrespective of increased prices. The price elasticity of demand for the whole of 1957-77 period showed similar results to that for the 1967-77 period, i.e. not a trade-off situation.

Of course price elasticities may reflect supply as well as demand factors. Price can influence demand levels, but equally supply rationing may influence prices. The Shah's government, however,

tended to disregard the latter possibility. If the Shah had controlled the level of production in the 1957-67 period, the output would have most likely been considerably higher and prices even lower. In contrast as already indicated if Mossadegh had remained in power the most likely situation would have been that prices would be higher and production lower than it actually was. Production may have been held down to boost prices, and conserve oil resources for future generations.

As a result of the 1973 oil price increase, oil revenue increased greatly. Output, as mentioned in section 2.2, contributed to a greater extent to revenue up to 1973. After 1973, however, the price increases led to the oil revenue increase since the world demand for oil began to fall. As Table 2.1 shows, revenue per barrel was fairly steady during the 1960s apart from a slight fall in 1969 but then began to rise rapidly and by 1975 it reached Rials 424.0 per barrel which was an increase of 685 per cent since 1970. However, in 1976 revenue per barrel began to fall again. Table 2.1 indicates that oil revenue increased as a result of increased production before the 1970s but the sharp rise in revenue per barrel in the 1970s was a result of the oil price rises.

In 1974 the various components making up the price of crude oil were subject to some changes within OPEC that led to an increase in income per barrel for the oil exporting countries. One of these changes was the rate of royalty payments. In order to make uniform the royalty rate paid by the oil companies to OPEC, it was decided to increase the payments from 12.5 per cent to 14.5 per cent as from 1st July 1974. This caused an increase of 11 cents in the government income from each barrel of Iranian light crude. The second change

that took place at OPEC's 41st Conference in Vienna in September 1974 was that the royalty payments were increased to 16.67 per cent and this led to a further increase in revenue per barrel of light crude for the Iranian government. [7]

Both income tax and royalty payments from the oil operating companies provided the Iranian government with a considerable amount of revenue. For instance in 1969 royalty payments were Rials 16,704 million, in 1971 they had risen to Rials 29,691 and by 1973 they had increased to Rials 49,680 million, i.e. within four years they had increased by 297.4 per cent. "The royalties from the oil companies to the Iranian government have in a sense provided an enormous supply of 'painless' savings which could not have been generated in the non-oil sector. As a result, there has been no need for domestic consumption to be curtailed or restricted. Both consumption and capital stock have managed to grow simultaneously. Sizeable additions to the stock of national capital have therefore taken place without the kind of belt-tightening and forced saving frequently suggested in the literature on economic development as the key for economic progress." [8] But what should be noted is that the excess demand in the Iranian economy created problems that belt tightening might have avoided. This will be discussed in more detail in the next chapter.

It can therefore be said that the price increases that began in 1973 led to an increase in oil revenue both directly and indirectly. Directly in the sense that income from exports and rising domestic consumption increased greatly; indirectly in the sense that both royalty payments received from the oil operating companies as well as the income tax (business tax) rose as a result of the price increases.

2.4 PRODUCTION AND FOREIGN EXCHANGE EARNINGS

It was as early as the 1960s that Iran wanted increased oil revenue, through raising production levels in order to finance its development plans that were based on imported technology on a large scale. In 1968 Iran demanded that the rate of production should be according to the developmental needs of the country and population rather than other criterion.

Oil has been Iran's main export item for many years. The oil industry's export of crude oil has contributed enormously to the country's foreign exchange earnings, especially since 1970 when the world demand for oil increased drastically and Iran ranked as the leading exporter in the world oil industry. But that position was not to last long. Soon after 1970 Saudi Arabia took the lead. Table 2.4 shows how high a share the oil industry had in foreign exchange receipts.

Export facilities are on a huge scale in Iran with Kharg Island being the main crude oil export terminal. The oil produced at all the major inland fields flows through land and off-shore pipelines to the Kharg marine export terminal on the eastern side of the island. The largest export jetty provides ten berths for supertankers up to 250,000 dwt, in addition a sea island provides two berths for mammoth tankers of the 500,000 dwt class. In 1969 the first of a series of what were then the largest oil storage tanks in the oil industry were completed, each with a capacity of over one million barrels of crude. Since then the major tank farm on the island has grown in increments of millions of barrels of storage capacity. While Kharg Island is used as the export outlet for the production of Iran's major inland oilfields, at various points on the mainland shore, on other islands,

and in the sea itself there are export terminals for Iran's off-shore production. Major export facilities for refined products are locted at Bandar Mah Shahr terminal on the Khor Musa inlet of the Persian Gulf. [9]

The Consortium dominated Iran's oil exports. The share of the Consortium out of the total exports was 100 per cent in 1956, 98 per cent in 1964 and by 1974 it was 87 per cent. During the 1968-73 period all the operators experienced a high rate of growth but exports had slowed down by 1974-75 due to the increase in oil prices and a worldwide economic recession.

As Table 2.5 shows the share of oil revenue in foreign exchange increased from 49.1 per cent in 1959 to 89.2 per cent in 1975. This large share has obviously made the Iranian economy more sensitive to outside effects, in particular to developments in western economies. This large share of foreign exchange has, however, alleviated the constraining influences on development that are normally exerted by the scarcity of foreign exchange in most developing countries. However, there are some disadvantages from having an abundant supply of foreign exchange. A favourable balance of payments can have drawbacks, especially for the exchange rate. In Iran's case there was an increase in the market rate of exchange for the rial above that warranted by the efficiency and the international competitiveness of the non-oil sector. These factors gave rise to an exchange rate which was too high for the domestic economy to be able to compete effectively with foreign producers under relatively free trade conditions.

TABLE 2.5

CONTRIBUTION OF OIL REVENUE TO IRAN'S FOREIGN EXCHANGE EARNINGS

Year	Foreign Exchange Earnings			Share of oil in foreign exchange, %
	From oil (million rials)	% change	total (million rials)	
1959	244.9	-	499.0	49.1
1960	258.7	5.6	501.5	50.7
1961	285.2	10.2	528.1	54.0
1962	291.1	2.1	538.7	54.0
1963	437.2	50.2	626.3	69.8
1964	470.8	7.7	618.8	76.1
1965	479.9	1.9	714.8	67.1
1966	512.1	6.7	817.3	62.7
1967	591.5	15.5	940.8	62.9
1968	857.4	45.0	1,175.5	72.9
1969	958.5	11.8	1,325.1	72.3
1970	1,099.0	14.7	1,518.7	72.4
1971	1,268.4	15.4	1,690.1	75.1
1972	2,114.1	66.7	2,733.5	77.3
1973	2,460.0	16.4	3,337.2	73.7
1974	4,945.0	201.0	6,232.0	79.3
1975	18,654.0	377.2	20,922.0	89.2
1976	19,074.0	2.3	21,972.0	86.8
1977	20,671.0	8.4	24,404.0	84.7

SOURCE Bank Markazi, Iran, Annual Report and Balance Sheet, 1959-77

As Table 2.6 shows the exports of crude oil rose steadily during the 1955-76 period, but exports of refined products grew at a slower rate during the same period and began to fall in 1972. The fall was from 110.3 million barrels in 1971 to 78.2 million barrels in 1976. This reduction in exports of refined products can be accounted for by the increased domestic demand as well as price factors. The increase in prices of refined products was more modest than that for crude oil as will be seen in section 2.5. If it had not been for oil exports there would have been a balance of trade deficit. The share of oil exports in total exports increased from 90.8 per cent in 1973 to 97.3 per cent in 1977. One could argue, however, that the trade

deficit would not necessarily have been enormous even if oil had been less significant. It is quite possible that traditional industries could have been developed further and new light enterprises encouraged. If this had been done imports on large scale may not have been necessary. What appears to have taken place is a neglect and almost a destruction of traditional industries while the government concentrated on developing the oil industry and other heavy industries which did not necessarily benefit the domestic economy.

TABLE 2.6

IRAN'S EXPORTS OF OIL, 1955-76
(Million Barrels)

Year	Exports of Oil			% increase
	Crude	Refined	Total	
1955	54.7	40.5	95.2	-
1956	102.6	68.6	171.3	79.9
1957	139.4	95.8	235.2	37.3
1958	176.3	92.9	369.2	57.0
1959	212.3	90.6	302.9	-18.0
1960	246.3	99.8	346.1	14.3
1961	306.4	83.8	390.2	12.7
1962	340.7	101.2	441.9	13.3
1963	393.6	102.7	496.2	12.3
1964	469.9	100.5	570.5	15.0
1965	534.8	101.7	636.5	11.6
1966	619.1	102.4	721.5	13.4
1967	783.3	103.8	887.1	23.0
1968	859.7	107.4	967.1	9.0
1969	1,093.3	113.5	1,152.8	19.2
1970	1,205.9	115.5	1,321.4	14.6
1971	1,452.3	110.9	1,563.2	18.3
1972	1,646.4	110.3	1,756.7	12.4
1973	1,926.6	100.4	2,027.0	15.4
1974	1,959.8	102.0	2,061.8	1.7
1975	1,705.4	102.2	1,807.6	-12.3
1976	1,903.6	78.2	1,981.8	9.6

SOURCE National Iranian Oil Company

Domestic consumption of oil increased considerably during the period of industrialisation. Refining capacity had to be increased to serve domestic requirements and several refineries were set up to fulfil this task. Those factors contributing to this increase in demand were the demands of the new heavy industries, expansion of the distribution and transport network, a stable political system that attracted foreign and domestic capital to set up petroleum-based industries, population increase, urbanisation, per capita income increase and finally the relatively steady prices held by NIOC. [10] Table 2.7 shows that during the 1957-74 period domestic consumption of oil increased at an annual rate of 12.1 per cent while the average annual population growth rate, during the same period, was about 2 per cent. Hence the latter can only explain part of the increase in consumption. The remaining 10 per cent must be explained by the other factors mentioned above. Rising domestic consumption, however, meant that less oil was available for exporting, as most refining was for the domestic market rather than for exports. Domestic consumption was however only a small proportion of total production of crude oil as Table 2.7 shows.

The income elasticity of demand for oil was calculated in the same manner as the price elasticity of demand exercise already outlined. The following formula was used in the calculation:

$$DC = aY^b$$

where DC is domestic consumption, Y income, a the intercept parameter (in logarithmic form) and b the income elasticity of demand for oil) and then put into the following logarithmic form:

$$\log DC = \log a + b \log Y$$

TABLE 2.8

PERIOD	log N	b log Y	R^2
1957-67	-1.473	1.628 Y	0.97
	(-2.374)	(15.92)	
1967-77	4.652	0.678 Y	0.98
	(20.96)	(21.93)	
1957-77	2.735	0.939 P	0.95
	(8.17)	(18.68)	

The hypothesis in this case would be that the income elasticity of demand for oil would be higher in the 1970s because of the type of industrialisation the Shah pursued, i.e. heavy industry which implied an energy intensive development strategy. This was, however, not the case and the hypothesis is rejected. The income elasticity of demand for oil was lower in the latter period. In other words, although the absolute amount of oil consumed domestically increased greatly, the rise was not as much as might have been expected from the growth of income.

TABLE 2.7

TOTAL DOMESTIC CONSUMPTION OF VARIOUS OIL PRODUCTS, 1957-74

Year	Total domestic consumption (million barrels)	Production of crude (million barrels)	% increase in domestic consumption
1957	16.0	263.4	-
1958	18.0	301.4	13.0
1959	21.0	338.8	20.0
1960	24.0	385.7	14.7
1961	27.0	431.9	10.3
1962	28.0	479.9	4.6
1963	29.0	538.1	4.8
1964	34.0	618.1	15.5
1965	37.0	688.2	9.3
1966	42.0	771.2	13.3
1967	48.0	947.7	15.2
1968	54.0	1,042.2	12.4
1969	61.0	1,231.8	12.3
1970	67.0	1,399.7	9.7
1971	74.0	1,656.9	11.1
1972	82.0	1,838.5	10.4
1973	97.0	2,139.3	18.0
1974	108.0	2,197.8	11.7

SOURCE Statistical Office of the Distribution Department, Iran

2.5 PRICES AND FOREIGN EXCHANGE EARNINGS

The increase in Iran's foreign exchange earnings during the 1973-77 period is mainly due to the oil price increases of 1973-74. The reason for this is that exports did not increase to any great extent. In 1975 when foreign exchange earnings from oil were US$ 18,654 million, an increase of 377.23 per cent from the previous year, export volume fell by 12.3 per cent compared with the same year. Prices, however, had increased by about 126 per cent from 1st December 1973 to 1st January 1974 and from 1974 to 1975 prices increased by 8.9 per cent. [11] Therefore this increase in foreign exchange earnings in the 1975-77 period can almost certainly be accounted for by the oil price increase.

As stated in section 2.4 (Table 2.6) the exports of refined oil products fell to 78.2 million barrels by 1976 due to increased domestic demand as well as the increase in the prices of refined products. Table 2.9 shows index numbers of posted prices of refined products for the major exporting port, Bandar Mah Shahr. The table shows the large price increases of refined products in the 1974-77 period in particular. These increases, although impressive, were less than those for crude oil, the prices of which were posted by OPEC. Export of refined products became less profitable vis a vis exports of crude oil.

TABLE 2.9

INDEX NUMBERS OF POSTED PRICES OF REFINED PRODUCTS FOR THE MAJOR EXPORTING PORT BANDAR MAH SHAHR, 1961-1977

Year	Gasoline (1964 = 100)	All products (1964 = 100)
1961	103.8	101.8
1962	102.7	101.9
1963	101.1	101.7
1964	100.0	100.0
1965	99.8	96.5
1966	100.4	96.7
1967	100.9	96.0
1968	101.3	95.5
1969	100.8	94.2
1970	100.6	94.1
1971	108.4	107.0
1972	112.3	112.5
1973	138.0	139.3
1974	324.2	366.5
1975	392.2	420.3
1976	415.6	454.0
1977	437.7	479.6

SOURCE Annual Statistical Bulletin, OPEC Statistics Unit, September 1979 (p 145)

Refining capacity was increased to serve the domestic requirements and several refineries were set up to fulfil this task. By having its own facilities to serve the domestic market, considerable foreign exchange savings were made. Some oil producing countries would export crude, and for its domestic use they had to import the various petroleum products as they lacked domestic refining facilities. [12] The refineries were therefore a considerable advantage to Iran. The foreign exchange saved could be utilised to finance capital goods imports for development although in practice much was spent in other ways. Defence expenditure, for example, was greatly increased but Iran's need to import necessities continued. What appears to have happened was a saving of foreign exchange took place in one sector

which was utilised in another. Whether this was effective or not is difficult to judge. Instead of developing industries and agriculture to serve domestic needs, the Shah developed heavy industries that were much too sophisticated for the Iranian economy and society and foreign skilled labour had to be used. Many traditional industries suffered and some went into liquidation. Agriculture also suffered as will be shown in Chapter Five, and it has not, even now, recovered. The Shah also insisted upon making Iran into a major military power and purchased a large amount of the latest military equipment. However due to its sophistication, there were many instances when there was a lack of skill to operate the equipment.

Before the quadrupling of oil prices, the trade deficit could not be offset by the oil sector. In 1969 the goods and services account of the balance of payments registered a $543 million deficit. Iran was forced to borrow all that amount in the international market. By 1972 the external trade deficit was $5.9 billion. However, the subsequent rises in oil prices changed this position totally and a goods and services surplus emerged of $400 million. This position did not last long. By 1975 the overall balance of payments in Iran showed a deficit of nearly US$ 13.9 million. The cause of this was that exports other than crude oil did not grow as quickly as imports. The high level of oil earnings was not sufficient to balance the import surge that took place. As stated earlier in this chapter, Iran's growing dependence on imported food, large imports of arms and ammunitions, the fast growth of the gross domestic capital formation caused by the heavy internal investment programme which was particularly import consuming, the emergence of the newly rich middle class and the changing pattern of demand that favoured import of consumption goods, were all responsible for the upsurge of Iran's

import bill. The same year, 1975, foreign reserves declined by exactly $991 million - a figure that was close to the most pessimistic forecasts put forward six months earlier. During the two subsequent years the balance of payments account registered small surpluses. However, these surpluses were well below what the country could have achieved.

2.6 CONCLUSION

Given the importance of the Iranian oil industry for government revenue and foreign exchange earnings, it can be concluded that if it had not been for oil, Iran would not have achieved the economic growth it did over the 1960-77 period.

The Shah's aim was to transform the country into a major economic and military power as soon as possible, especially before the country's reserves were exhausted. In order to achieve these great plans he called for an increase in the production of oil. Output increased steadily during the 1955-77 period. However, although there was a steady increase in production up to 1973 the increase was not as great as the Iranian government wanted. The reason for this was that the Consortium was in control of the production level and they were unwilling to expand production any further. Iran did gain control in 1973 when NIOC took over the whole of the Consortium's operations and by 1974 oil production was at its peak but fell by 11.2 per cent the following year. The Shah's policy of increasing production at such a rapid pace meant that exhaustion of the country's reserves was being brought forward. However, the Shah believed that he had to take advantage of the oil price increases that took place in the 1973-74 period. The sudden increase in oil revenue during the 1973-77 period had its advantages and disadvantages. One advantage was that the

terms of trade improved greatly. Disadvantages were that the rate of inflation increased considerably and the economy was unable to absorb such large inflows within such a short period of time due to its limited infrastructure and supply bottlenecks.

The production of oil contributed a great deal to the continuous increase in revenue up to 1973 and oil prices played a minor role. This trend, however, was reversed in the 1973-77 period when the production of oil began to slow down whilst there was a boom in oil prices and revenue. The oil price increases of 1973-77 were the main reasons for the increases in Iran's foreign exchange earnings during the 1973-77 period. The reason for this is that the volume of exports did not increase to any great extent while foreign exchange earnings increased enormously.

The estimates for the price elasticity of demand for Iran's oil indicated that the hypothesis that the demand for oil is responsive to price was accepted for the 1957-67 period. When the price of oil fell, the demand for oil increased. During the 1967-77 period, on the other hand, demand rose in spite of increased prices. Similar results to that for the 1967-77 period were obtained for the whole of the 1957-77 period.

Oil was Iran's main export item for many years. The industry contributed enormously to the country's foreign exchange earnings. This was to Iran's advantage because of its increasing need to import both for its ambitious industrialisation programme and to meet the increasing demand for food and other consumer goods which were not sufficiently, if at all, produced domestically. The share of oil revenue in foreign exchange increased from 49.1 per cent in 1959 to

89.2 per cent in 1975. This large share made the Iranian economy more sensitive to external influences especially from Western economies. At the same time the substantial foreign exchange earning from oil have alleviated the constraining influences on development that are normally exerted by the scarcity of foreign exchange in most developing countries.

The income elasticity of demand for oil was calculated and the hypothesis that the income elasticity of demand for oil would be higher in the 1970s because of the type of industrialisation the Shah pursued, was rejected. The income elasticity of demand for oil was lower for the 1967-77 period than for the previous decade. That is, although the absolute amount of oil consumed domestically increased greatly, the rise was not as high as might have been expected from the growth of income.

The development of the Iranian oil industry during the 1953-77 period has resulted in enormous increases in oil revenue and foreign exchange earnings. This in turn has enabled the Iranian government to press ahead with its ambitious development plans although, as will be seen in later chapters, these were not as successful as the planners envisaged.

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CHAPTER THREE

OIL REVENUE AND THE IRANIAN ECONOMY

3.1 INTRODUCTION

During the 1960s and 1970s the Iranian economy experienced rapid growth with per capita income increasing considerably. The purpose of this chapter is to show the contribution of oil revenue to the Iranian economy over the 1953-77 period. The division of oil reserves by the government, between the Treasury General and the Plan Organisation, shows the attitude the government had toward development planning. More than half of the revenues went to the ordinary budget in the 1950s, whilst over three-quarters of the oil revenue was allocated to the development budget in the 1960s.

The increasing emphasis on investment expenditure rather than current spending might be expected to raise the rate of economic growth. In reality it is difficult to measure how effective investment was, however, in promoting growth. Although the growth rate was 9 per cent per annum on average over the 1963-70 period and 30 per cent per annum over the 1971-75 period, this rise merely reflected developments in the oil sector. Oil output accounted for an increasing proportion of GNP, and it was the value of the oil output itself, rather than the revenue from oil, that raised the growth rate. One aim of this thesis is to demonstrate how this in fact was the case.

The Iranian government tried to use its oil revenue to achieve the following goals: developing the economy so that it will eventually become self-reliant and independent of events and developments in the oil sector; increasing the standard of living of the majority of the

population; increasing the country's national security; increasing the country's influence in international affairs, and maintaining, as well as strengthening, the country's institutional and political organisation. In order to achieve these goals the oil revenue needed to be channelled into at least four main areas, these being:

1. Domestic investment in either private or public projects with positive rates of return had to be increased.
2. Private and public consumption had to be increased in order to raise standard of living over a time.
3. Discretionary expenditure by the government was needed (e.g. military expenditure). It was realised that this would not directly raise the country's productive capacity but it was however regarded as desirable on non-economic grounds.
4. Investment abroad needed to be increased, as this provided non-oil revenue, and could be used to secure Iranian control over market outlets for its oil.

In this chapter an examination will be made of whether Iran channelled its oil revenue into these areas and if the government was effective in achieving their goals. Firstly, the relationship between oil revenue and government expenditure will be discussed by looking at the state's current expenditure and capital expenditure. Secondly, the relationship between oil revenue and private expenditure will be considered, the examination covering both consumption and investment spending by the private sector. Thirdly, the overall effect of oil revenue on gross national product will be discussed. Fourthly, and finally, the problem of inflation in the Iranian economy will be looked at in the context of the earlier discussion.

3.2 OIL REVENUE AND GOVERNMENT EXPENDITURE

3.2.1 Government Current Expenditure

The government has two broad options in determining the level of domestic expenditure financed by oil revenue. The first option is to develop the human infrastructure and the second is to develop the physical infrastructure. The latter involves capital expenditure, but the former often has a high current expenditure on salaries etc. The Shah did not strike the optimum balance between the two types of expenditure. There was overspending on the physical infrastructure which by itself was insufficient, and underspending on human infrastructure. A good example of this is in the field of education. More schools were being built and school enrolments increased considerably. However, quantity did not necessarily mean quality. There was a shortage of teachers and those who were qualified had to deal with a large number of students at a time. This obviously meant that individual students did not get sufficient attention, hence the quality of their education was not as good as it should have been. An attempt was made to do too much with insufficient resources. More spending on teachers salaries would have raised current expenditure, but this may have been useful from the growth point of view as the additional capital expenditure.

Table 3.1 shows government current expenditure during the 1960-77 period at 1970 constant prices. The table shows that government consumption increased on average by 12.36 per cent per annum during the 1960-69 period whereas during the 1970-77 period it increased on average by 21.36 per cent per annum, which is a considerable increase even by Middle Eastern standards. The greatest increase was in 1974 when consumption increased from Rials 260.5 billion in 1973 to Rials 430.0 billion, i.e. by 65.1 per cent. The

reason for this increase is most likely due to the increases in oil prices which in turn led to increased oil revenue to be spent.

TABLE 3.1

GOVERNMENT CONSUMPTION EXPENDITURE
(1970 Constant Prices, Billion Rials)

Year	Government consumption	% change
1960	39.9	-
1961	40.8	2.3
1962	41.6	2.0
1963	47.0	13.0
1964	54.7	16.4
1965	72.4	32.4
1966	82.4	13.8
1967	95.4	15.8
1968	109.3	14.6
1969	124.6	13.4
1970	141.6	13.6
1971	178.6	25.8
1972	225.1	26.3
1973	260.5	15.7
1974	430.0	65.1
1975	512.0	19.1
1976	583.8	14.0
1977	533.2	-8.7

SOURCE Bank Markazi, Iran, Annual Reports 1960-78

Iran's current expenditure requirement was constantly on the increase during the period. The country's expenditure amounted to Rials 560 billion or 27 per cent of the general budget and 12 per cent of GNP. Much of this, however, was on military spending. Few countries not at war had such a high defence expenditure. The official government justification for such a big military build-up was that since the nation had almost 35 million people and was in the process of becoming an industrial power, it required powerful armed forces, both acting as a reflection of the country's own importance and as a means of safeguarding national security.

Another of the Shah's objectives was to raise the standard of living over a period of time. If greater facilities for education and health were provided it could lead to an increase in the rate of literacy and numeracy, the level of public consciousness would be raised, an increase in skilled manpower could therefore take place and a reasonable standard of health for the working population would be maintained. All of these factors would contribute to higher productivity, innovation and/or absorption of new techniques and values.

The strategy used for the expansion of the Iranian education and health system appears to have been quite reasonable. In the ten year period between 1962-72 the total number of secondary school students increased at an annual average growth rate of 14 per cent from 260,000 to 1.4 million. By 1978 this figure had increased by almost a million to 2.3 million. [1] The trend was the same throughout the whole of the education system. The state's expenditure on education began to rise with oil revenue and had priority over the rest of the social services.

Public sector savings have almost always been the main source of finance for domestic investment activity in developing countries. However, towards the latter part of the 1960s, increases in public sector investments were not matched by increases in public sector savings - owing to large consumption expenditure outlays - with the result that foreign borrowings were substantially increased. This trend changed however in 1971 when oil revenues began to rise.

Table 3.2 shows the division of oil revenue between the Treasury General and the Plan Organisation over the 1963-73 period. Oil

revenue was insufficient to fulfil the government's capital expenditure requirement, hence foreign borrowing had to be relied on. An example of this enormous increase in government consumption, in spite of increased oil revenue, is that foreign borrowing for the general budget was expected to be $1.2 billion or more in 1976, i.e. 42 per cent of total revenues. It was as early as 1975 that Iranian official circles acknowledged that Iran could become a net borrower on the international money market, yet this was only one year after the quadrupling of oil prices.

TABLE 3.2

DIVISION OF THE OIL REVENUE BETWEEN THE TREASURY GENERAL AND THE PLAN ORGANISATION, 1963-73

Year	Oil revenue (billion rials)	Share of Treasury General (billion rials)	Share of Treasury General (% of totals)	Share of Plan Organisation (billion rials)	Share of Plan Organisation (% of totals)
1963	34.5	14.2	41.2	20.3	58.8
1964	41.9	16.2	38.7	25.7	61.3
1965	43.4	10.8	24.8	32.6	75.2
1966	51.9	14.6	28.1	37.3	71.9
1967	63.9	17.1	26.8	46.8	73.2
1968	70.6	17.2	24.3	53.4	75.7
1969	72.4	15.2	21.0	57.2	79.0
1970	84.7	17.8	21.0	66.9	79.0
1971	133.1	30.1	22.6	103.0	77.4
1972	163.1	33.4	20.5	129.7	79.5
1973	238.2	69.1	29.0	169.1	71.0
5th Plan (1973-78)	6,732	2,125	32.0	4,607*	68.0

* Estimated by assuming that 100% of Plan Organisation's requirements in the 5th Plan came from oil

SOURCE Bank Markazi, Iran, Annual Reports 1963-74 and the 5th Development Plan of Iran (revised), Plan and Budget Organisation (Tehran, 1975)

In order to quantify the relationship between government consumption (current expenditure) and oil revenue, simple regression analysis was adopted. By using a simple Keynesian consumption function the government's marginal propensity to consume was estimated in relation to oil revenue. Table 3.3 shows the results.

TABLE 3.3

THE GOVERNMENT'S MARGINAL PROPENSITY TO CONSUME (MPC^G) IN RELATION TO OIL REVENUE DURING 1960-77

	$G_t = a + bR_t$	$G_t = a + bR_{t-1}$	$G_t = a + b\,R_t$
b	0.52	0.52	0.19
s(b)	(0.04)	(0.06)	(0.04)
t	(12.43)	(8.84)	(4.80)
R^2	0.91	0.84	0.61
D.W.	1.47	1.62	1.25

where $b = MPC^G$

G_t = government's consumption

R_t = oil revenue

A marginal propensity to consume of 0.52 indicates that as oil revenue increases, government consumption rises by over half as much. This ratio, however, is not as high as one expected. Private consumption, which will be discussed later in this chapter, increased even faster and investment fastest of all. An average propensity to consume of 0.79 was also estimated. [2] The APC is the proportion of oil revenue that is actually consumed. These results are in accordance with the Absolute Income Hypothesis forwarded by Keynes. He stated that the proportion of income consumed declines as income rises and that the APC will always have a greater value than the MPC, which is the case in this analysis. [3] It should be stressed at this point that

government consumption is related to oil revenue instead of national income.

The results show that there is no increase in the b coefficient when oil revenue is lagged, demonstrating that government expenditure adjusts only slowly to changes in oil revenue. This is confirmed in the third and final result where a MPC^G of 0.19 has been estimated. This shows that any sudden change in oil revenue has only a minor immediate effect on the level of government consumption. These results have illustrated the importance of oil revenue in determining the level of government expenditure, consumption in this case.

The choice between present and future compensation is the same as the choice between consumption and investment in the present. How much investment should be made in the present is dependent on the time interval over which society wants to maximise consumption and how it values future consumption as compared with present consumption i.e. on the rate at which it discounts future consumption gains. Having examined the first choice, present consumption, above, the second choice, investment, will now be discussed.

3.2.2 Government Capital Expenditure

Early during the post-war period mostly infrastructure investments were made. These contributed significantly to the country's development drive by virtue of the scale of investment and the support thereby given to the directly productive activities.

The heavy and continued reliance by the government on an easy and abundant income from oil has had it advantages and disadvantages. By enabling taxes to be kept at a modest level costs were kept low and

incentives were greater. On the other hand, however, an adequate tax system was not really in force, hence the government was very dependent on oil revenue, which in turn made Iran very vulnerable. During the 1955-73 period the Iranian economy was very vulnerable to the Consortium's actions, whereas during the 1973-77 period the Iranian economy was vulnerable to international oil market conditions. The stagnation of oil revenues over the 1976-77 period intensified the government's efforts towards restructuring the tax system. Less revenue from oil was expected at the end of the 1970s and considerably more from taxes and levies.

Table 3.4 shows the contribution oil revenue made to the first five development plans during the 1949-78 period. The table also shows how the Plan Organisation increasingly had to rely on other sources of revenue than oil to finance their development budget. The government increasingly relied upon sources such as foreign and domestic loans - due to its oil reserves the Iranian government had no problems in obtaining credit facilities both domestically and abroad - and in the 5th Development Plan taxes had increased as a source of finance. Direct taxes amounted to Rials 350.5 billion and indirect taxes to Rials 438.1 billion by the time of the 5th Development Plan. These figures are classified under other sources in Table 3.4.

Table 3.5 shows gross fixed capital formation (GFCF) over the 1960-77 period. GFCG increased on average by 9.9 per cent annually over the 1960-69 period as compared with an average growth of 12.4 per cent for government consumption expenditure over the same period. However, the average rate of increase of investment appears to have been much higher during the 1970-77 period at 25.5 per cent as compared with an average rate of increase for government consumption

TABLE 3.4

SOURCE OF REVENUE TO FINANCE THE FIVE DEVELOPMENT PLANS, 1949-78

Development Plan	Oil revenue (billion rials)	% share	Government bonds (billion rials)	Foreign and domestic loans (billion rials)	% share	Others (billion rials)	Total revenue (billion rials)
1st Development Plan (1949-56)	7.8	(37.1)	1.0	11.2	(53.3)	1.0	21.0
2nd Development Plan (1956-62)	60.8	(66.4)		30.8*			91.6
3rd Development Plan (mid 1962-67)	153.0	(67.0)	14.0	57.0	(25.0)	5.0	229.0
4th Development Plan (March 1968-March 1973)	413.0	(53.8)	131.0	202.0**	(26.3)	22.0	768.0
5th Development Plan (March 1973-78)	1,577.4	(47.2)	54.5	433.4**	(13.0)	1,278.7	3,344

* Foreign and domestic loans and credits etc. - separate figures not available
** Foreign loans only

SOURCE Plan Organisation, Iran, Development Plan Reports for the first five plans (1949-78)

of 21.4 per cent for the same period. This increase in investment reflects the Shah's strategy of making Iran into a major industrial power and therefore investing in heavy industries with massive investments in capital goods. In reality most of the industries established were capital-intensive. Without oil revenue Iran would have been unable to invest so heavily. Even though the oil revenue did not cover the finance required for these investment plans oil revenue contributed greatly, and as Table 3.4 shows, oil revenue was the most significant source of finance in the development plans.

TABLE 3.5

GROSS FIXED CAPITAL FORMATION
(Billion Rials)

Year	GFCF	% increase
1960	69.6	-
1961	66.7	- 4.2
1962	52.3	-21.6
1963	59.1	13.0
1964	73.5	24.4
1965	90.4	23.0
1966	101.4	12.2
1967	131.2	29.4
1968	147.2	12.2
1969	163.3	10.9
1970	167.3	2.5
1971	204.1	22.0
1972	256.2	25.5
1973	290.9	13.5
1974	384.7	32.2
1975	675.7	75.6
1976	859.7	27.2
1977	909.6	5.8

SOURCE Bank Markazi, Iran, Annual Reports 1960-78

Foreign and domestic loans played an important role in financing the development plans although admittedly the share of these loans in total revenue fell in the 5th Development Plan to 13 per cent. In

real terms, however, there was an increase of 114.6 per cent from the previous five year plan. Iran became less dependent upon foreign loans when the increase in oil revenue took place during the 1973-77 period, but still a considerable number of important loans were obtained. Table 3.6 provides a summary of major loans made to Iran for the purpose of directly and indirectly financing various projects during the 1973-74 period.

TABLE 3.6

VARIOUS LOANS MADE TO IRAN DURING 1973-74
FOR THE PURPOSE OF DEVELOPMENT

Year	Lender	Amount
1973	International Finance Corporation	
	Group of US Banks	$ 25 m
	Syndicate of Japanese Banks	$ 44 m
	IBRD	
1974	World Bank	$ 75 m
	US Consortium	$ 7 m
	Ex - IM Bank	$453 m
	1 BRD (transmission and gas turbine project)	$ 58 m
	(Bandar - Shahpur expansion)	$ 65 m
	(Agricultural Development Bank of Iran)	$ 40 m
	(IMDBI)	$ 75 m
	(Industrial Credit Bank) (Small and large scale industries)	$ 25 m

SOURCE Economic Intelligence Unit, Quarterly Economic Review (QER), Iran (1973-74)

It should be stated at this point that Iran also granted loans to various LDCs and provided aid for countries like Afghanistan.

The investment expenditure of the state placed particular emphasis on the urban sector; especially investment in construction; heavy industries, such as steel, machine tools etc; modern service

activities like banking and insurance; and the latest type of investment in modern technology - capital-intensive as well as skill-intensive. Discrimination against agriculture resulted in agricultural stagnation, a shortage of food and agricultural products on the supply side, an increased widening of the urban-rural gulf, and growth of peasant migration to towns and cities. Was the state's investment strategy the most efficient one? Was Iran able to operate such sophisticated industry when most of the capital had to be imported and even labour had to be imported since the domestic labour force did not have the appropriate skills? The answers to these questions is that the Iranian population as a whole did not benefit greatly even though part of the economy may have. An alternative investment strategy may have been preferable where greater investment in labour-intensive industries would have taken place in order to utilise the factors of production such as the semi-skilled labour already available in the economy. This might have reduced imports rather than increased them, thus making the domestic economy more self-sufficient. This in turn might have saved oil revenue that was being spent on imports, hence making oil revenue available over a longer time span.

Table 3.7 shows planned and actual investment by sectors in the first four development plans. The table indicates that investment in agriculture during the first three plans was fairly constant but by 1968 when the 4th Development Plan was drawn up, only 8.2 per cent of total investment was to be allocated to agriculture.

In the 5th Plan the planners used three basic criteria for allocating investment finance among the various sectors of the economy. Top priority was given to industries that were involved with

the country's relatively abundant resources. Hence, oil, gas and petrochemical industries were singled out for the largest share of funds. Relatively large sums were also given to steel and machine tool manufacturing and copper mining activities. Another top priority was infrastructure development especially of ports, communication systems and roads. The investments were made by the planners in order to overcome existing or anticipated physical bottlenecks. As far as the agricultural sector is concerned investment was still low in relation to other sectors, during the 5th Plan, although the level of investment in the sector was slightly raised. The third and final part to stress about the 5th Plan was the high priority given to social investment - housing, education, health, regional development and environmental protection.

The total investment by the oil industry has constituted a significant share of the total gross domestic capital formation in Iran since 1955. Table 3.8 shows the capital expenditures of the Iranian oil operating companies during the 1954-72 period. The amount invested in exploration and drilling was one of two major areas of investment. The other was the investment in basic fixed assets. One can assume that these early investments were an absolute necessity for the development of industry. Lower investment in industry would undoubtedly have meant less development. The Iranian government must have benefited in the long run from these investments although the initial cost meant less revenue in the short run. This is a prime example of a choice being made between present and future consumption i.e. between consumption and investment.

The government's marginal propensity to invest (MPI^G) was estimated with the following result:

TABLE 3.8

CAPITAL EXPENDITURE OF THE IRANIAN OIL OPERATING COMPANIES IN IRAN'S OIL INDUSTRY
($ millions)

Year	Fixed Assets		Movable assets	Kharg installations	Exploration and drilling	Other investments	Total investments
	Basic*	Non-basic**					
1954-55	2.2	2.5	3.4	-	-	-	8.1
1956	4.7	5.9	5.0	-	-	-	15.6
1957	10.6	11.2	9.5	3.9	-	0.8	36.0
1958	19.0	10.9	11.8	25.8	-	0.8	68.3
1959	12.9	8.4	3.9	38.9	-	0.8	64.9
1960	12.6	3.9	9.2	18.2	-	0.8	44.7
1961	16.2	10.3	7.3	1.9	-	0.8	36.5
1962	17.9	8.7	6.1	0.3	32.8	0.6	33.7
1963	13.7	6.2	3.6	-	31.4	0.0	53.7
1964	9.0	4.5	2.0	15.4	19.6	0.6	42.1
1965	20.4	3.1	2.5	65.0	15.1	1.1	102.5
1966	41.7	3.6	4.5	6.7	14.6	0.0	66.0
1967	33.6	4.2	3.1	0.3	22.1	0.0	58.6
1968	39.6	2.6	2.6	-	27.1	0.0	67.4
1969	69.1	1.7	2.2	-	26.9	0.0	97.7
1970	25.7	1.7	1.9	-	29.0	0.0	58.3
1971	80.0	1.2	1.7	-	28.1	0.0	111.6
1972	63.6	1.4	1.4	-	41.7	0.0	108.2

* Basic refers to activities relating to oil production, refining, exploration, drilling etc.
** Non-basic refers to activities leading to preparation, provision, maintenance and management of housing, sanitation, education, transport, etc.

SOURCE Bank Markazi, Iran, Annual Reports 1965-69, 1971, 1973

TABLE 3.9

THE GOVERNMENT'S MARGINAL PROPENSITY TO INVEST IN RELATION TO OIL REVENUE, 1960-77

	$I_t = a + bR_t$	$I_t = a + bR_{t-1}$	$I_t = a + b R_t$
b	0.70	0.81	-0.002
s(b)	(0.10)	(0.06)	(0.10)
t	(7.24)	(13.0)	(-0.02)
R^2	0.77	0.92	0.0
D.W.	1.36	2.01	0.77

where $b = MPI^G$

I_t = investment

R_t = oil revenue

The results indicate that when oil revenue increases the government's investment expenditure increases by 0.70 of that amount, which is quite considerable. Investments take time to implement, however, and the relationship between oil revenue and investment was stronger when the former was lagged one period. As far as any immediate change in the level of investment when oil revenue changes slightly is concerned the results are negligible. This is most likely due to the long term nature of investment. These results confirm Iran's dependence on oil revenue for the extensive investment plans undertaken during the 1960s and 1970s. The average propensity to invest was estimated to be 1.04, which means that the finance from oil revenue alone was insufficient. This explains the reasons for Iran's need to borrow abroad as well as obtaining other sources of finance.

The Iranian government was not the only party to invest in Iran. Over the years various foreign parties have invested in several key industries. In July 1973 it was announced that the Iran Overseas

Investment Bank Limited had been established. This new investment bank was set by the Industrial Mining Development Bank of Iran (IMDBI), Bank Melli Iran, Barclays Bank, Midland Bank, Deutsche Bank, The Industrial Bank of Japan, Manufacturers Hanover and Societe Generale. The bank was located in London and one of its prime functions was attracting foreign investment to Iran and financing schemes within the Iranian development field from overseas sources. [4]

Throughout the 1955-77 period Iran continued to invest abroad but on a considerably lower scale than some of the Arab oil exporting countries such as Kuwait. Iran's population is the highest in the Middle East, apart from Egypt, hence there was a need for the immediate use of oil revenue. The investments made abroad were mostly short term asset holdings (US Treasury Bills, commercial bank deposits etc.) which could easily be cashed. The longer term investments made largely promoted Iran's internal or regional investments. Iran invested in KRUPP, the armaments manufacturing concern in West Germany and in a chain of retail petrol stations also in West Germany. This secured an outlet for Iranian oil.

Both government current and capital expenditure are sensitive to fluctuations in oil revenue. However, government current expenditure can be more easily altered and changed than in the case of investment although those changes are likely to be resented since wages and salaries of workers are involved. The Shah implemented some highly ambitious investment projects, which once started, could not be cancelled without wasting considerable sources. Hence it can be said that investment is less sensitive to fluctuations in oil revenue than current expenditure is.

Now that public sector expenditure has been discussed in relation to oil revenue, private sectors expenditure in relation to oil revenue will be discussed next.

3.3 OIL REVENUE AND PRIVATE EXPENDITURE

In this section the relationship between oil revenue and private expenditure will be analysed. Table 3.10 shows private consumption and oil revenues over the 1960-77 period.

TABLE 3.10

PRIVATE CONSUMPTION AND OIL REVENUES IN THE IRANIAN ECONOMY, 1960-77
(1970 Price, Billion Rials)

Year	Private consumption	% change	Oil revenues	% change
1960	282.9	-	26.6	-
1961	295.7	4.52	26.7	0.4
1962	309.7	4.73	30.9	15.7
1963	322.3	4.07	34.5	11.7
1964	332.6	3.20	41.9	21.5
1965	359.0	7.94	43.4	3.6
1966	390.0	8.64	51.9	19.6
1967	420.9	7.92	63.9	23.1
1968	448.9	6.65	70.6	10.5
1969	483.2	7.64	72.4	2.5
1970	537.3	11.20	84.7	16.9
1971	533.8	-0.65	133.1	57.1
1972	603.3	13.02	163.1	22.5
1973	704.3	16.74	238.2	46.0
1974	771.9	9.60	992.5	316.7
1975	834.5	8.11	828.9	-16.5
1976	891.5	6.83	892.0	7.6
1977	1,072.9	20.35	727.0	-18.5

SOURCE Bank Markazi, Iran, Annual Reports 1960-78

It has been a great concern of many economists, planners, and international agencies, that although many LDCs have experienced rapid growth of GDP over the past 20 years this has not benefited a substantial portion of the population of these countries. In the case

of Iran this has also been the case. What is interesting in the case of Iran is that when comparing rural and urban private consumption as is done in Table 3.11, there is a considerable difference between the two areas.

TABLE 3.11

DISTRIBUTION OF CONSUMPTION EXPENDITURE AMONG VARIOUS CATEGORIES
Selected Years
('000 m Rials)

		1962-3	1967-8	1971-2	1972-3	1977-8
1	Urban consumption	122.9	187.2	293.0	590.3*	1,052.5*
2	Rural consumption	110.5	143.4	158.4	290.0*	370.0*
3	Total private consumption (1 + 2)	233.4	330.6	451.4	880.3	1,422.5
4	State consumption	31.5	73.6	159.3	354.2	786.0
5	Aggregate consumption	264.9	404.2	610.7	1,234.5	2,208.5

* estimates

SOURCE Based on data published by Bank Markazi, Iran (Annual Reports, various years) and the Statistical Centre of Iran

The population of rural areas in the year before the oil revenue explosion was about 60 per cent of the total, whereas consumption in these areas only amounted to 35 per cent of total private consumption. It should be stated at this point that the government confined 80 per cent of its expenditure to the urban sector. These two facts stress the vast difference in real consumption per capita between the two sectors. In spite of this, the World Bank classifies Iran under the moderate income inequality group where the share of the lowest 40 per cent was 12-17 per cent. In 1968 Iran had per capita income of $332

where the lowest 4 per cent had 12.5 per cent of national income, the middle 40 per cent had 33 per cent, and the top 20 per cent had 54.5 per cent. [5]

During the 1963-73 period the major factor that did not change was the income distribution. The first move toward fairer distribution of income was made in the 1973 budget where a specific provision was made for an increase in minimum wages to Rials 7,600 per month. Per capita income began to show a considerable increase early in the 1973-77 period. Table 3.12 shows per capita income over selected years.

TABLE 3.12

PER CAPITA INCOME IN IRAN
(US$)

Year	Per capita income	% change
1968	332	-
1972	429	29.2
1974	815	90.0
1976	2,000	145.4

SOURCE Economist Intelligence Unit, Quarterly Economic Review, 1972-76

This data does not however, give any indication of whether the internal distribution of income was fair or not. No such data is available. The urban population does, however, appear to be better off in terms of having basic amenities such as piped water, electricity, cars, radio, television, refrigerators, telephones etc. These amenities are more readily available in urban than rural areas. However, this does not mean that everybody living in urban areas was well off. Only a small minority of the urban population have a western standard of living. During the White Revolution (1963), the

Shah allocated land to farmers which, in many cases, was in the desert and impossible to irrigate. This was one reason for the great influx of rural people into the urban areas in search of a better life. Many had difficulty in finding adequate employment and instead ended up in shanty towns such as those south of Tehran.

On the whole most Iranians were better off in 1977 than a decade earlier and by then there were indications that the benefit of growth had begun to penetrate deeply enough to reach most Iranians. This shows that in the absolute sense most people were on a higher income/consumption level than previously - even though the relative gain by various group varied widely.

In the wake of the oil price increases the extension of free education, health care, broader coverage of social security, transportation and food subsidies, low cost housing etc, were designed not only to enhance the absolute standard of living of the low income strata in Iranian society but also to narrow the relative gap between the urban and rural sector. The gap, that had been reduced slightly in the 1959-65 period, worsened significantly during the 1965-76 period. These results show the inevitable consequences of rapid economic development under dualistic conditions, whereby the modern urban sector is likely to 'take-off' much faster than the rural sector. These results could support Lewis' model (1954) where he states that income is to be redistributed in favour of the class that saves and invests in order to ensure capital accumulation and growth. [6] Lewis re-emphasised the connection between growth and inequality in 1976 by stating 'Development must be inegalitarian because it does not start in every part of the economy at the same time'. [7] He maintains that growth occurs in enclaves within the LDC and this process can cause

inequalities both between the enclave and the traditional sector and within the enclave itself.

As mentioned above then the urban areas benefited to a greater extent from the increased oil revenue of the economy than the rural areas did. Rural to urban migration increased considerably during the 1953-77 period - people moved to urban areas in search of work. As far as savings are concerned households with low incomes normally save less than those with high incomes. Therefore the inequality in the distribution of income will generally be greater than the inequality in the distribution of expenditure.

Lewis' orthodox view that inequality was essential for growth has been vigorously challenged by Gunnar Myrdal (1968, 1971) who holds the view that quite the opposite was the case. He argued that greater equality was in fact a required pre-condition for more rapid economic growth.

> ' ... inequality and the trend towards rising inequality stand as a complex of inhibitions and obstacles to development and that, consequently there is an urgent need for reversing the trend and creating greater equality as a condition for speeding up detection.'
>
> (Myrdal, 1971, pp 63-66) [8]

One can speculate at this point whether Iran's growth and development would have been greater and more successful than it actually was, for the whole of the population, had the distribution of income been more equal. The answer to that question is possibly that had the distribution of income been more equal it is quite likely that it would have been at the expense of growth. Savings, which are usually high when distribution of income is unequal, would have been

lower. As Table 3.13 shows then national savings in Iran increased by 295.5 per cent from 1968-69 to 1973-74 and by 44.9 per cent from 1973-74 to 1974-785. These large increases are explained partly by the uneven income distribution in Iran and the high marginal propensity to save of the higher income earners.

TABLE 3.13

IRAN'S NATIONAL SAVINGS
(1959-60 Prices, Million Rials)

	1959-60	1963-64	1968-69	1973-74	1974-75	1975-76
National Savings	44.4	59.8	89.0	352.0	510.0	572.2

SOURCE Bank Markazi, Iran, Annual Reports and Balance Sheet, 1959-77

The upper and middle income groups are more likely to consume imported goods, however, or import intensive domestically produced goods, as well as indulging in wasteful expenditure (including the export of capital) instead of living frugally, saving and investing a substantial part of their income. Iran would have benefited a great deal if the upper and middle income groups had invested more in local industries that could have produced the required consumer goods.

As stated in section 3.2 on government consumption, it appears that private consumption increased faster than government consumption expenditure. Table 3.14 below shows the estimated MPC for the private sector.

TABLE 3.14

THE MARGINAL PROPENSITY TO CONSUME OF THE PRIVATE SECTOR IN RELATION TO OIL REVENUE, 1960-77

	$C_t = a + bR_t$	$C_t = a + bR_{t-1}$	$C_t = a + b\,R_t$
b	0.59	0.61	-0.01
s(b)	(0.08)	(0.09)	(0.06)
t	(7.09)	(6.66)	(-0.19)
R^2	0.76	0.75	0.0
D.W.	1.17	0.99	0.84

where $b = MPC^P$

C_t = private consumption

R_t = oil revenue

An MPC^P of 0.59 shows that for every increase in oil revenue, private consumption increases by well over half of that increase. The APC for the private sector was estimated to be 2.12 which is very high indeed. These two results therefore prove Keynes' Absolute Income Hypothesis although in this case oil revenue is being used instead of disposable income. The APC for the period 1960-69 was estimated to be 7.9 with a relatively low oil revenue (Rials 462.8 billion) whilst during the 1970-77 period, the APC was 1.5 with a much higher oil revenue (Rials 4,059.5 billion). These results also confirm Keynes' hypothesis that the APC, the portion of income consumed, declines and that the APC will always have a greater value than the MPC (APC > MPC).

Lagging oil revenue raises the slope parameter (MPC) slightly as the estimate of 0.61 indicates, but the difference is insignificant. The final result of whether a slight change in oil revenue has any immediate effect on the level of private consumption is negligible. [9]

These results emphasise the importance of oil revenue on the level of private consumption.

There was a rapid expansion in private investment after 1956. This expansion showed that provided finance was available, this trend would continue. However, there was a problem attached to this expansion. Much of the investment consisted of imitative entrepreneurship representing the expansion of existing industries. The problem in this area was to prevent over-investment in certain industries and the total lack of investment in others. In the 3rd Development Plan an estimate had to be made for the more important industries, of how much capacity was required to meet demand during the five and a half years of the plan. Formidable difficulties were involved in trying to obtain reasonably good figures in the estimation of future consumption.

Private investment expenditure increased at an annual rate of about 7.5 per cent during the 1959-72 period. This rate of growth rose to 10 per cent during the 1962-74 period. By 1975-76 the rate of growth of private investment in plant and equipment had increased by 157 per cent and in construction 60 per cent. Private expenditures in construction had increased more rapidly than investment in plant and equipment over the years. During the 1959-62 period when aggregate investment fell, real private expenditures in construction actually increased by an annual average rate of 9 per cent. With both increased public works projects and a shortage of construction materials, private construction activities slowed down as compared with the public sector in the latter part of the 1953-77 period.

The reason for this expansion in private investment is partly

due to the high level of economic activity and partly due to the improved investment climate coupled with appropriate investment inducing policies on the part of the government - in particular the 5th Development Plan where one of the policy aims was to encourage private investment in small scale labour-intensive industries such as construction. The Shah's other attempt to encourage private investment was when he insisted upon selling 99 per cent of state-owned manufacturing companies shares to the public in 1975. The same year the Ministry of Economy and Finance established a financing organisation to provide credit to workers wishing to purchase shares in the company in which they were employed.

Most of the private investment went into the urban sector which left the rural areas without any chance of improvement. The Shah's unsuccesful land reforms, which will be discussed in a subsequent chapter, did not leave the rural population much option. The average ratio of private savings to private investment for the 1966-70 decade is estimated to be greater than one, which shows that generally the private sector was self-sufficient in meeting its own needs.

Now that the three main components of GNP have been discussed in some detail, we shall proceed our discussion of the overall effects of oil revenue on GNP.

3.4 OIL REVENUE AND GROSS NATIONAL PRODUCT

Until the 1950s the oil sector played only a minor role in terms of its contribution to GNP and government income. However, since then the magnitude of receipts from oil has risen steadily both due to the increase in the level of production and later because of substantial improvements in the terms of trade.

Table 3.15 shows the relative significance of the oil sector's share in GNP. During the 1960-70 period the share of the oil industry in GNP fluctuated from 6.9 per cent to 9.6 per cent but by 1971 that share had increased to 13.1 per cent. In 1974 it increased to a peak of 46.4 per cent and then began to fall again to 27.4 per cent in 1977.

TABLE 3.15

OIL REVENUE AND ITS SHARE IN GNP
(1970 Constant Prices, Billion Rials)

Year	GNP	Oil Revenue	Share of oil revenue in GNP (%)
1960	383.7	26.6	6.9
1961	401.6	26.7	6.6
1962	408.9	30.9	7.6
1963	438.0	34.5	7.9
1964	458.2	41.9	9.1
1965	516.8	43.4	8.4
1966	566.9	51.9	9.2
1967	623.7	63.9	10.2
1968	680.7	70.6	10.4
1969	802.3	72.4	9.0
1970	884.1	84.7	9.6
1971	1,015.6	133.1	13.1
1972	1,157.4	163.1	14.1
1973	1,467.3	238.2	16.2
1974	2,138.3	992.5	46.4
1975	2,231.3	828.9	37.1
1976	2,659.4	892.0	33.5
1977	2,655.4	727.0	27.4

SOURCE Bank Markazi, Iran and OPEC Statistical Office, Annual Reports, 1960-78

This overwhelming significance of oil for Iranian economy is both its strength and its weakness. Oil bestows enormous benefits such as an abundant supply of foreign exchange, and it leads to increases in gross capital formation, high rates of growth in the economy and means credit facilities become available on favourable

terms. However, oil revenue also brings disadvantages. The dominance of oil revenues in the economy can imply structural weakness. The oil industry did not provide much employment for the nation because of its high capital-intensitivity. This means that oil revenue is not earned as a result of factors engaged in a productive process but as a return on the national ownership of a scarce natural resource. This structural weakness may have some serious implications for economic behaviour. The other shortcoming is that oil is a depletable resource. Despite outward expressions of confidence the oil exporting countries feel vulnerable to possible changes in fortune.

During the 1960-77 period Iran's economy has been among the most buoyant in the world. Apart from a short period in the early 1960s, and the 1975-76 world-wide recession, the economy has achieved remarkable rates of growth, attaining its highest rates during the 1973-75 period. Oil revenues, being the main source of government finance, have helped to increase both public consumption and public investment expenditures. Government demand, in turn, has exerted a multiplier effect by means of credit expansion and liquidity injections on total private spending.

As a result of this disproportionate growth rates among the different sectors, the composition of the economy and relative sectoral contributions to GNP have drastically changed. Due to its slow growth, for example, the share of agriculture in GNP dropped about a quarter, from 33.6 per cent in 1959-60 to 9.8 per cent in 1975/76. Once the largest single contributor to the Iranian economy, the agricultural sector became totally dwarfed by the other sectors.

The marginal propensity of aggregate income in relation to oil

revenue was estimated to be as Table 3.16 shows.

TABLE 3.16

THE MARGINAL PROPENSITY OF AGGREGATE INCOME IN RELATION TO OIL REVENUE, 1960-77

	$Y_t = a + bR_t$	$Y_t = a + bR_{t-1}$	$Y_t = a + b\,R_t$
b	2.2	2.17	0.76
s(b)	(0.19)	(0.28)	(0.13)
t	(11.56)	(7.75)	(5.81)
R^2	0.89	0.80	0.69
D.W.	1.25	1.63	1.03

where b = MPY

Y_t = GNP

R_t = oil revenue

An MPY of 2.2 indicates very strongly that aggregate income increases by more than oil revenues. This is most likely to be a result of multiplier effects in the economy. The action of the multiplier can be illustrated by the sequence of events that follows the initial injection, which in Iran's case is from the country's oil industry. The increase in oil revenue adds to incomes which in turn are partly spent on other goods and services. In turn this means that those who produced the goods have also enjoyed a rise in income and they subsequently spend part of it, and so the chain continues with a smaller sum of income being passed on at each stage. The extent of the eventual increase in income is determined by how much income is passed on at each stage, i.e. by the MPC of the parties to this sequence of events. In the case of Iran the size of the multiplier is:

$$K = \frac{1}{1 - MPC} = \frac{1}{1 - 0.59} = 2.4 \quad [10]$$

There is an even stronger relationship between oil revenue and aggregate income when the income is lagged. There is a considerable change in income when oil revenue changes slightly as the MPY of 0.76 indicates. These results are a strong confirmation of how important the oil industry is to the Iranian economy.

The growth of the Iranian economy has not been without its problems, one being inflation. This will be discussed in some depth in the following section.

3.5 OIL REVENUES AND INFLATION

During most of the 1960s, economic development in Iran was accompanied by remarkable price stability (see Table 3.17). The reason for this price stability is partly due to the existance of under-utilised capacity, as a result of the recession of the 1950s and early 1960s. Also, it was partly because of the limited magnitude of oil income itself. However, as the former began to shrink and the latter grew in quantum jumps, inflationary pressures were intensified.

Government spending made a significant contribution to inflation. Iran's rate of inflation at the end of the 1970-77 period was higher than the rest of the worlds. It was not an imported inflation as one may have expected as a result of increased import prices, but a self-inflicted inflation due to the country's buoyant demand. The government's defence spending was the single largest item in the budget. Spending on wages and salaries for the armed forces and security services increased disposable incomes but not productive capacity. Spending on military equipment was, however, less inflationary, as it was mostly imported.

TABLE 3.17

VARIATION IN WHOLESALE PRICE INDEX AND OIL REVENUE

Year	Wholesale price index (1970 = 100)	Rate of change (%)	Oil revenue (1970 prices billion rials)	Annual rate of change (%)
1953	65.0	-	0.03	-
1954	76.6	17.9	2.1	-
1955	67.3	-12.1	10.1	380.9
1956	79.7	18.4	14.3	41.6
1957	80.4	0.9	20.0	39.9
1958	77.3	- 3.9	24.2	21.0
1959	79.7	3.1	24.9	2.9
1960	81.2	1.9	26.6	10.8
1961	82.8	2.0	26.7	0.4
1962	83.6	1.0	30.9	15.7
1963	83.6	0	34.5	11.7
1964	87.0	4.1	41.9	21.5
1965	89.7	3.1	43.4	3.6
1966	88.8	- 1.0	51.9	19.6
1967	89.0	0.2	63.9	23.1
1968	91.5	2.8	70.6	10.5
1969	96.5	5.5	72.4	2.5
1970	100.0	3.6	84.7	16.9
1971	106.2	6.2	133.1	57.1
1972	112.2	5.7	163.1	22.5
1973	124.9	11.3	238.2	46.0
1974	146.1	17.0	992.5	316.7
1975	157.7	7.9	828.9	- 16.5
1976	171.9	9.0	892.0	7.6
1977	201.4	17.1	727.0	- 18.5

SOURCE Bank Markazi, Iran, Annual Reports 1957-78, and OPEC Statistical Office Reports

Another important factor that contributed to inflationary pressure was the increased demand for food. With an increased money supply and an obvious improvement in living standards of the Iranian people, there was an increased demand for food in terms of both quantity and quality.

This increase in demand in turn led to an upward push on food prices. It was, however, retail margins which increased rather than farm gate prices, hence the rising prices did not induce greater supplies. Whilst the demand for food seemed to have increased at an average rate of 10 per cent per annum, the domestically produced supply of these foodstuffs was growing at about half that rate. To supplement local production, imports of foodstuffs increased at rapid rates. These averaged 200 per cent per annum for grains, 45 per cent for dairy products and 50 per cent for sugar. This increase in the demand for foodstuff was partly due to the government's subsidy programme which aimed to maintain relatively stable and low prices. Ironically as this policy stimulated demand without increasing local supply, the underlying inflationary problem was only aggrevated. It could be argued that the funds spent on subsidies might have been better spent on investment in domestic agriculture. However, there would be some time before the domestic agricultural sector could meet the demand and in the meantime this demand would have to be met by imports.

The marginal propensity to import in relation to oil revenue was estimated for the 1960-77 period with the following results.

TABLE 3.18

THE MARGINAL PROPENSITY TO IMPORT IN RELATION TO OIL REVENUE, 1960-77

	$M_t = a + bR_t$	$M_t = a + bR_{t-1}$	$M_t = a + b R_t$
b	0.40	0.46	0.03
s(b)	(0.05)	(0.03)	(0.07)
t	(8.07)	(14.60)	(0.39)
R^2	0.80	0.93	0.01
D.W.	1.62	2.14	1.27

where b = MPM, the marginal propensity to import

M_t = imports

R_t = oil revenue

The results show that there was a considerable import leakage in the system but not as high as expected considering Iran's increasing need to import in the 1970s. The relationship appears to be slightly stronger when oil revenues were lagged as the MPM of 0.46 shows compared with earlier result of 0.40. However the level of imports does not show any immediate change with a slight change in oil revenue as the MPM of 0.03 indicates. It can therefore be concluded that oil revenue is a significant factor in determining the level of imports. The high level of imports places a considerable constraint on the balance of payments. This constraint would only have been minimised if the level of imports had been reduced and domestic production of import substitute goods established.

The major problem the Iranian government was faced with when inflation accelerated in 1973-77, was one of devising a set of policies that could effectively utilise oil revenues to optimise real increases in GNP. At the same time its objective was to contain

inflation at levels that were socially and politically acceptable. The government had already undertaken a number of policies at the end of the 1953-77 period in order to prevent further increases in the rate of domestic inflation. Each of these policies was designed to control price increases in the various sectors of the economy. Theoretically speaking these policies should be successful in overcoming the problem of inflation, but the Iranian government's success in this field has been mixed, and in general unsatisfactory.

Monetary and income (or price control) policies were used. Monetary policy aimed at increasing supplies and directing investments into productive channels. Monetary policy was used to raise interest rates on deposits and advances and to restrict credit availablility to the private sector without diverting credit from productive investment. Monetary policy was also used to reduce private sector liquidity by issuing attractively priced securities.

In its attack against inflation the government used incomes policy to control wage and price increases. Several organisations were used to administer this policy. The government's aim was to roll back prices as quickly as they possibly could to rates of increase 10-20 per cent below the 1975 level, i.e. to levels that were more manageable but without deflationary pressures that would squeeze company profits. They were not successful in their task and by 1977 the rate of inflation was 17.1 per cent according to the wholesale price index as shown in Table 3.17.

It is clearly seen in Table 3.17 how closely related the increase or decrease in oil revenue is to the changes in the level of inflation. If one looks at the 1973-77 period, for instance, then it

is evident that when oil revenue increased from Rials 238.2 billion in 1973 to Rials 992.5 billion in 1974, or by 316.7 per cent, the rate of inflation increased from 11.3 per cent to 17.0 per cent, and when oil revenue fell in 1975 by 16.5 per cent the rate of inflation fell to 7.9 per cent.

3.6 CONCLUSION

It can now be concluded, having discussed in considerable depth both the public and private sectors in relation to oil revenue, that the Iranian economy is very heavily dependent upon its oil revenue. This has some advantages and disadvantages. The advantages are that it has led to considerable growth in the economy. Per capita income increased from $332 in 1968 to $2,000 by 1976, which is a remarkable growth. In spite of this growth not everyone benefited. Admittedly, there was an increase in public expenditure on various social services such as education, housing, health, etc. which undoubtetdly improved people's standard of living. However, this applied mainly to those living in urban areas. There was a considerable degree of discrimination against rural areas which resulted in agricultural stagnation and a shortage of food and agricultural products. In order to meet the increased demand for these goods Iran became a substantial importer of basic necessities. It is believed here that a lot of Iran's problems can be traced to this negligence of the agricultural sector.

Investments in heavy industries increased greatly during the 1970-77 period. Investments were primarily directed towards capital-intensive industries whereas Iran may have needed more labour-intensive industries with its relatively abundant supply of labour. A lot of the industries set up were highly sophisticated and

skilled labour from abroad had to be imported. The skills of the domestic labour force were not appropriate for these new industries.

Of the various estimates made in the chapter, the most significant result was that for the MPY which illustrated Iran's heavy reliance upon oil revenue as a source of income. This was also the case when the MPC of the public and private sectors were estimated.

NOTES AND REFERENCES

[1] Bank Markazi, Iran: Annual Report and Balance Sheet, 1358 (1977-8), p 163.

[2] The APC was estimated by using the following formula:

$$APC = \frac{\text{Total Government Consumption}}{\text{Total Oil Revenue}}$$

[3] Westaway, A.J. and Weyman-Jones, T.G.: Macroeconomics, Longman 1977, Chapter 4.

[4] The Economist Intelligence Unit: Quarterly Economic Review (QER) Iran, No. 4, 1973.

[5] Colman, D. and Nixon, F.: Economics of Change in LDCs, Philip Allan, Oxford, 1980, pp 58-59.

[6] Lewis,W.A.: 'Economic development with unlimited supplies of labour', Manchester School, May 1954.

[7] Lewis, W.A.: 'Development and distribution' in Cairncross and Puri (eds).

[8] Myrdal, G.: The Challenge of World Poverty.

[9] It should be noted at this point that the D.W. statistics were not adequate in this estimation.

[10] An MPC of 0.59 was estimated in section 3.3, Table 3.14.

CHAPTER FOUR

INVESTMENT IN INDUSTRY

4.1 Introduction

In this chapter investment in Iranian industry will be the focus of discussion especially its funding, its success, and its priorities. Industry in Iran developed rapidly during the 1953-77 period and could be considered as the backbone of Iran's future economy.

In the post-war period Iran's industrial policy emphasised the broadening and intensifying of the industrial base as an impetus to increasing productivity and more important as a potential source of non-oil exports. Secondly, industrial activities were to be used as a ground for training a new class of semi-skilled and skilled workers which was essential for adopting and implementing modern technology. Thirdly, emphasis was placed upon utilising the comparative advantages of the domestic endowments, especially in sources of energy, minerals and metals. Finally, attempts were made to make industrial goods competitive both in price and quality in international markets.

The state's industrial strategy emphasised investment in some heavy industrial plants such as steel and machine tools and the promotion of import-substitution in modern consumer durables such as motorcars and home appliances. In the latter part of the 1953-77 period the petrochemical industry was established and an attempt was made to promote traditional arts and crafts. However, before 1973 the development of large scale industries was relatively slow but this changed after the 1973-74 oil boom.

4.2 FUNDING OF INVESTMENT IN INDUSTRY

In the period before 1957 most new industrial projects were carried out by entrepreneurs investing their savings, supported by some fixed investment loan facilities which were provided by a fund established by the government. There were also credit facilities which were mostly in the form of a working capital, provided by the existing commercial banks.

In order to strengthen the industrial financing network and enhance industrial development several financial institutions were set up during the 1956-73 period. Entrepreneurial savings and the fixed investment loan facilities that were previously used to develop the industrial sector provided insufficient funds for the ever-growing projects undertaken in this sector.

The Industrial Credit Bank (ICB) was inaugurated by the Iranian government in 1956. The ICB was 100 per cent state-owned and its activities included extension of industrial loans and equity participation in industrial projects.

The second financial institution that was established was the Industrial and Mining Development Bank of Iran (IMDBI) in 1959. The IMDBI was privately owned with a large number of foreign bank as shareholders. The role of the bank was to provide long-term and medium-term loans as well as providing project management and services. Although the ICB and the IMDBI both provided finance for industrial development in Iran there was a clear difference in their operations. The ICB actually invested its funds in viable projects on a regional basis i.e. aided more regional development programmes rather than lending on an individual industrial development project

basis as the IMDBI did. Another point to be emphasised is that with its strong foreign connections the IMDBI was less likely to have been particularly concerned with where its finance would be going as long as repayment of the loan was ensured. As far as the ICB is concerned, however, the national/regional interest was of great importance since it was state-owned.

Table 4.1 shows the industrial loans approved by the ICB and the IMDBI over the 1962-75 period. As the table shows there was a considerable increase in loans from these two industrial development banks over the period, the IMDBI in particular.

TABLE 4.1

INDUSTRIAL LOANS APPROVED BY INDUSTRIAL DEVELOPMENT BANKS
(Million Rials)

Year	Industrial and Mining Development Bank of Iran (IMDBI)		Industrial Credit Bank (ICB)	
		% increase		% increase
1962	599	-	41	-
1963	583	- 2.7	165	302.4
1964	1,076	84.6	158	- 4.2
1965	1,828	69.9	268	69.6
1966	2,005	9.7	264	- 1.5
1967	1,984	- 1.0	1,517	474.6
1968	3,132	57.9	1,809	19.2
1969	4,568	45.9	1,360	-24.8
1970	4,523	- 1.0	1,315	- 3.3
1971	6,823	50.9	2,864	117.8
1972	8,117	19.0	3,547	23.9
1973	17,373	114.0	8,229	132.0
1974	24,205	39.3	18,954	130.3
1975	37,249	53.9	19,493	2.8

SOURCES Industrial and Mining Development Bank of Iran and Industrial Credit Bank Annual Reports, 1962-75

During the 1962-69 period approved loans for industrial purposes by the IMDBI increased on average by 37.8 per cent whereas during the 1970-75 period the average increase was 46 per cent. These figures show that industrial development accelerated as the govermnent revenue from oil increased with the oil price boom of the 1973-74 period in particular.

Although the IMDBI is not state-owned, this relationship can be explained in terms of the increased willingness of the finance institutions to lend knowing that the increase in oil revenue meant increased economic prosperity that would lead to a better insurance of repayment. This relationship is even stronger in the case of the ICB, which is fully state-owned. As Table 4.1 shows its lending expanded rapidly during the 1973-74 period when more state finance was made available.

Both these lending institutions were strongly supported by the government through the provision of easy credit, and in addition there were guarantees for their borrowings from international financial institutions.

The Development and Investment Bank of Iran was set up by private sector interests in 1973 with 79 per cent of the shares held by Iranians and the remaining 21 per cent being held by foreign banks. Its establishment was an attempt to strengthen even further the industrial financing network and to meet the ever growing demand which was generated through the increased pace of industrial development. The increases in government revenue had enabled the government to push for industrialisation at a quicker pace than before and caused a multiplier effect on the system.

The bulk of industrial investment during the 1967-77 period was undertaken with the assistance of these financial institutions. At the same time these institutions with their expertise and experience have been able to assist the government in their decisions on industrial targets and the formulation of new industrial policies.

The commercial banking sector in Iran has never been strong and has never been a major source of industrial finance. The commercial banks were not involved in any long-term lending. Hence the government established the above-mentioned industrial lending institutions. In spite of their advantages, the establishment of these lending institutions only benefited the larger firms in need of finance for further development. The smaller entrepreneurs could only borrow from family circles, if at all, as they did not have any easy access to other sources of finance.

The question of what promoted industrial development remains to be answered. Was it easy finance that promoted the development of industry as neo-classical economists would suggest or was it the level of demand in the economy that played a more crucial role as Keynesians believe? In the case of Iran the former seems to be the more likely. Finance was far from being a constraint during the 1973-77 period for the development of the industrial sector. Demand was, however, stimulated by oil revenues but development finance was directed more into heavy industries rather than industries producing goods to meet the increased domestic demand. Hence, those industries that actually were developed were not established as a result of increased domestic demand for them. Thus the Keynesian view that the level of demand in the economy was the crucial factor in industrial development is not appropriate in Iran's case. It could be said that increased demand

was a consequence of, rather than a cause of, industrial development.

Since 1960 the oil sector has provided large amounts of capital for Iran's economic expansion. In 1963 there were very few large industrial establishments in Iran. By 1972 there were 6,000 large establishments and 220,000 small establishments. Out of the 6,000 large establishments there were 95 that employed more than 500 workers and 37 with 7,000 or more.

The Iranian bourgeoisie can be regarded as the second agent of industrialisation. 'The government's promotion of industry and the land reform programme motivated a significant number of the bourgeoisie to participate in the industrialisation programme. However, their investment was channelled into the less demanding section of the economy such as housing and light industry and left other ventures to the state'. [1]

The third and final agent in Iran's industrialisation has been foreign investment. 'The only significant foreign investment prior to 1950 was within the oil sector. The first step taken to encourage foreign capital in other sectors of the economy was in 1953 when the Shah had been reinstated in power. The Centre for the Attraction and Promotion of Foreign Investment (CAPFI) was set up in 1955. The aim of CAPFI was to channel foreign investment into areas where Iranian expertise was lacking. Hence, the main areas of foreign investment in the 1960s were in rubber, chemicals, building materials and mining. By the 1970s these were extended to include automobile manufacturing steel production, armaments and agribusiness.' [2]. Table 4.2 shows foreign investment through CAPFI according to type of activity during the 1962-77 period.

TABLE 4.2

FOREIGN INVESTMENT IN IRAN THROUGH THE CENTRE FOR THE ATTRACTION AND PROMOTION OF FOREIGN INVESTMENT ACCORDING TO THE TYPE OF ACTIVITY, 1962-77
(Million Rials)

Year	Rubber	Pharmaceutical and chemical	Electrical and electronic	Metallurgy	Building materials and construction	Petrochemical	Transportation equipment	Food	Motor oil refining	Mining	Hotels	Others
1962	5	38	-	9	301	-	33	-	-	63	-	10
1963	-	87	32	15	37	-	19	3	-	64	-	-
1964	52	64	63	18	40	-	5	-	-	27	-	1
1965	376	126	34	28	29	-	19	50	-	146	-	-
1966	256	203	78	95	30	67	17	2	97	113	-	30
1967	70	204	20	66	47	52	35	7	8	159	-	-
1968	502	223	153	128	38	37	86	19	60	274	50	13
1969	118	274	176	283	64	2,097	77	32	10	103	30	-
1970	331	248	244	263	77	-	245	36	64	297	95	418
1971	155	351	276	118	74	64	76	24	22	140	55	117
1972	118	114	195	171	23	-	99	119	2	146	63	166
1973	233	79	194	11	64	1,121	1,027	144	-	274	24	415
1974	1,209	140	511	422	201	1,337	22	9	-	109	52	456
1975	654	253	251	273	169	911	675	10	-	12	14	491
1976	244	172	481	1,733	-	2,309	111	86	-	-	152	1,248
1977	277	321	358	1,478	205	2,524	-	242	-	230	53	660

SOURCE Ministry of Economic Affairs and Finance Iran, Annual Financial Reports, 1962-77

Iran's aim was not to obtain investment finance from multi-national corporations as so many Third World countries aimed to do. Iran had plentiful supplies of capital itself. Its aim was to bring about technological transfers. The government set up strict terms for the investors. The foreign firms were only allowed to operate through joint ventures with an Iranian partner, either private or state-owned, and were only allowed to have a minority holding in these ventures. [3] However, in spite of only having a minority share the foreign firms had a managerial and technological monopoly which gave them more power. This was in practice much greater than their formal legal holding.

The Iranian state became very dependent on these muilti-national firms for its industrialisation programme as it was the only means by which equipment could be installed and run for the development of the medium and heavy sides of industry. A prime example of this type of joint venture was Iran's co-operation with the German steel manufacturers Krupp.

Credit policies favoured large enterprises and better-off Iranians as well as the foreign firms participating in the joint venture enterprises. The large enterprises benfited from subsidised rates considerably below the market price of money whilst small shopowners and crafts people were deprived even of unsubsidised bank credit, as their plants did not provide sufficient collateral for banks. They were in general not eligible for normal bank rates of about 12 per cent and had to borrow in the bazaar at rates of 25 to 100 per cent.

Now that the funding of investment in the industrial sector has

been discussed actual investment will be considered next.

4.3 ACTUAL INVESTMENT EXPENDITURE

It was not until the late 1950s that the Iranian government started a fairly extensive investment programme of infrastructural facilities as well as some consumer goods and building material industries. The government was hoping that its investment would encourage the private sector to invest.

However, modern industrialisation did not materialise until the mid-1960s when a new socio-economic framework was created which was to lead to massive investment by both the public and private sectors. This new framework emphasised rapid industrialisation and the building up of a diversified and self-sustaining industrial base in order to broaden the economy's productive capacity.

'In the 1960s whilst private investment began to rise in the industrial sector the government began to divest its holdings in the consumer goods industries by selling its shares to the private sector. At the same time the government was redirecting its investment towards large-scale industries such as integrated steel mills and other metal smelting, petrochemicals, heavy engineering, machine tools, tractors, pulp and paper and electronics.' [4]

Table 4.3 shows capital investment in industry and mines by the government and the private sector. The table shows that private investment in industry has been considerably higher than government investment since 1968. Whilst private investment increased at an average rate of 32.7 per cent over the 1968-74 period government investment increased at an average rate of 29.5 per cent. Government

investment, however, fluctuated greatly during this period and actually decreased during the 1970-72 period. In 1974 there was an increase in government investment of 133.3 per cent from the previous year which is most likely due to the increase in oil revenue recorded.

TABLE 4.3

CAPITAL INVESTMENT IN INDUSTRY AND MINES, 1961-74
(Million Rials)

Year	1 Private	2 Government	3 Total	2 to 3 %
3rd Plan (1961-67)	(30.5)	(34.5)	(65.0)	(53.1)
4th Plan (1968-72)	(183.6)	(116.4)	(300.0)	(38.8)
(1968)	22.7	16.6	39.3	42.2
(1969)	31.7	22.3	54.0	41.3
(1970)	36.2	28.5	64.7	44.0
(1971)	46.6	25.8	72.4	35.6
(1972)	46.4	23.2	69.6	33.3
5th Plan (Projected) (1973-78)				
(1973)	57.0	23.4	80.4	29.1
(1974)	109.0	54.6	163.6	33.3

SOURCE Iran Past, Present and Future, Aspen Institute/Persepolis Symposium, 1976, p 106

Table 4.4 shows in some detail the sectors of industry in which the government invested. It is clearly seen that emphasis has been placed upon investment in heavy industries such as metals (steel), chemicals and mining. Less attention has been given to the food industry, handicrafts and the electric and electronic industries. This could partly explain Iran's increasing need to import goods that otherwise could have been produced domestically if further investments would have been made in these areas.

TABLE 4.4

GOVERNMENT DISBURSEMENTS FOR DEVELOPMENT OF MANUFACTURING AND MINING
(Million Rials)

Year	Food	Chemicals and petrochemicals	Non-metallic minerals	Basic metals	Mechanical industries	Transportation industries	Electric and electronic industries	Handi-crafts	Wood works	Other industries	Technical aid	Industrial credit	Mining
1968	992*	5,759	-	4,525		1,458**				205	164	2,244	251
1969	1,260	8,102	-	9,414		2,644				196	176	1,100	231
1970	1,228	6,007	-	1,664		3,006				142	161	1,094	223
1971	1,383	2,178	-	15,668		2,026				180	294	1,697	358
1972	993	2,200	-	13,237		1,598				209	424	2,372	858
1973	317	2,419	510	10,404	1,558	424	271	30	899		165	1,750	6,500
1974	1,059	6,119	2,000	14,718	2,552	3,154	1,000	246	3,763		420	28,770	15,201
1975	1,520	18,347	3,504	22,696	6,155	4,248	2,410	1,006	4,752		404	20,000	18,353
1976	3,791	8,333	4,702	31,189	5,711	5,716	1,650	3,708	6,175		512	10,750	11,820

* 1968-72 figures include tobacco
** Separate figures for these three categories for 1968-72 not available, i.e. mechanical industries, transportation industries and electric and electronic industries.

SOURCE Ministry of Economic Affairs and Finance, Annual Reports, Tehran

However, the government increased its assistance to the private sector as the data for industrial credit indicates. It is interesting to see how investment in each sector increased in 1974 after the 1973-74 oil price boom. It is quite obvious that increased oil revenue has had a significant impact on the level of investment in industry.

Table 4.5 shows investment in machinery and industrial and mining equipment. The data indicates that Iran was heavily dependent on imports of machinery as the domestic market was only able to produce a fraction of the machinery and equipment that was required for the newly-established industries. The consequences of these imports will be later discussed in section 4.5 on investment priorities.

To emphasise the extent of the diversification of the Iranian economy it is necessary to look more deeply into each sector. In industry a host of new industrial goods, ranging from automobiles and home appliances to sheet glass, were being produced.

In 1965 the Iranian and Soviet governments signed an agreement which led to the inauguration of the country's first steel mill. Since then the agreement has been extended to include aluminium and copper, in addition to iron and steel as well as machine tools and other sophisticated equipment. Iran's largest steel mill is located at Esfahan, with a capacity of eight million tonnes per year in the late 1970s. The plant was equipped with converters as well as continuous casting and rolling mills to produce annually a variety of steel products including bars, plates, rails and sections, wire etc. During the 1967-77 period further mills were established to meet the increasing demand, in particular from the construction and automobile industries.

TABLE 4.5

INVESTMENT IN MACHINERY AND INDUSTRIAL AND MINING EQUIPMENT
(Million Rials)

Year	Imports	Domestic production	Investment in machinery and industrial and mining equipment	% change	Total investment in machinery and work equipment	Ratio of column 3 to column 5 %
1963	4,417	118	4,535	-22.3	16,331	27.8
1964	5,966	203	6,169	36.0	22,574	27.3
1965	10,665	465	11,130	80.4	29,860	37.3
1966	13,433	642	14,075	26.5	36,087	39.0
1967	21,971	725	22,696	61.3	48,314	47.0
1968	24,710	784	25,494	12.3	54,596	46.7
1969	27,720	903	28,623	12.3	61,712	46.4

SOURCE Bank Markazi, Iran, Annual Reports, 1963-69

With assistance from Czechoslovakia the Tabriz Machine Tool Company, with a production capacity of 8,000 tonnes, was built. The plant produced a variety of machine tools such as compressors, electromotors and high pressure valves. Another machine tool plant was built at Arak with the assistance of the Soviet Union with a capacity of 30,000 tonnes. This plant produced during the 1975-76 period more than 9,000 tonnes of heavy engineering equipment such as mining cars, industrial boilers, castings, cranes and conveyors and pressure vessels. Finally the Ahvaz Pipe Manufacturing Company should be mentioned. An affiliate of NIOC, it was set up with the assistance of the International Finance Coporation, its capacity being 360,000 tonnes of pipes per year. The Ahvaz mill was used to produce the pipes for the gas trunkline from the oilfields in the south of Iran to the Soviet Union.

'The Iranian automotive industry was established in 1945 when a truck and bus body plant was set up to offset the dwindling foreign supplies brought about by World War II. All automobiles were imported until 1958 when foreign manufacturers were given licenses for the manufacture or assembly of automobiles in Iran. By 1976, there were ten major plants in Iran employing about 20,000 workers and producing 90,000 passenger cars, 2,400 buses, 10,500 trucks, 30,000 vans and 5,400 mini-buses, stationwagons and ambulances. The key components were imported but over half of the required parts were domestically produced such as the chassis, bodies, tyres, radiators and batteries.' [5]

The automobile industry is Iran's largest private industrial undertaking with over $3 billion of investment but it never met domestic demand. The rapid growth of the industry has however created

a number of other industrial activities for the production of the various components, spare parts and related services. [6]

The NIOC and government officials began to make plans in the mid-1960s to establish a petrochemical industry in order to create a reasonable export sector for the future. This was a very costly project which required extensive technological know-how and a vast amount of capital. What was not realised however was the time required to become a serious contender in the world petrochemical market turned out to be much greater than expected. By 1977 the petrochemical industry had not established itself as a major market force. [7]

Over the 1963-78 period the state invested a considerable amount in water and power although that amount was only a small proportion of the government's total investment. Expensive hydro-electric dams were built, and conventional power stations were imported and put into operation. Large nuclear power stations were ordered but only partly installed and never put into use - another wastage of the state's funds. [8]

Iran's oldest and most extensive light industry is the textile industry. In 1960 there were 57 medium size textile mills and a large number of smaller ones. 'Approximately 99 per cent of the factories were privately owned but the handful of government run mills were among the largest and accounted for about 20-25 per cent of the industry's capacity and workforce.' [9]

The textile industry has not been as efficient as expected. Considerable investment was made in the industry during the 4th and

5th Plans, which led to an increase in employment. However the bulk of employment in the industry was concentrated in the medium and small size privately owned mills. A survey carried out in Esfahan showed that most equipment was not in working order. Most spindles required repair and rebuilding, technical supervision was deficient, machines were improperly handled and labour discipline and moral was low. [10] New mills were built with new machinery whilst machinery in existing mills was not replaced or repaired.

Now that actual investment has been discussed in some detail the efficiency of investment expenditure in industry will be examined next.

4.4 EFFICIENCY OF INDUSTRIAL INVESTMENT EXPENDITURE

Table 4.6 gives some indication of how efficient the various sectors of industry have been during the 1971-75 period when both private and government investment expenditures were at their peak. The industries stated above are the most important industries that have been established or developed since 1964 and give a fair representative picture of the industrialisation strategy of the state.

The table shows that textiles had the largest total output in the group of modern, but not necessarily recent, manufacturing industries. By 1975 the oil revenue explosion of 1973-74 had altered this trend significantly. The share of the motor vehicle industry had increased very rapidly to 21.6 per cent whilst textiles lost its dominant position with a share of only 13.5 per cent. The new industries had very little export potential. The future prospects of these industries were rather gloomy and totally dependent on the domestic market which in turn depends on the income from oil revenue as well as

TABLE 4.6

OUTPUT OF SELECTED INDUSTRIES, 1971-76
(1969 Constant Prices)

Year	Textiles		Motor vehicles		Sugar		Basic metals		Tobacco		Home appliances		Vegetable oil		Cement		Radio, TV, Telephone		Petro-chemicals		Toiletries		Others*	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1971	19.7	17.8	16.2	14.6	11.3	10.2	9.8	8.8	9.6	8.6	7.0	6.4	7.0	6.4	4.0	3.6	3.8	3.5	3.6	3.2	3.3	2.9	15.5	14.0
1972	22.2	17.0	20.6	15.8	11.4	8.7	12.8	9.8	9.5	7.3	8.7	6.7	7.6	5.8	4.8	3.7	4.8	3.7	4.8	3.7	3.9	3.0	19.3	14.8
1973	25.0	16.4	26.3	17.3	11.9	7.8	14.1	9.3	9.9	6.5	11.4	7.5	7.8	5.1	5.0	3.3	6.4	4.2	5.9	3.9	4.3	2.8	24.2	15.9
1974	26.8	15.0	35.0	19.5	12.9	7.2	16.0	8.8	10.9	6.1	13.5	7.5	9.7	5.4	6.6	3.7	9.2	5.1	5.7	3.2	5.3	3.0	27.6	15.4
1975	28.0	13.5	44.8	21.6	13.2	6.3	19.5	9.4	12.0	5.8	17.3	8.3	10.7	5.1	7.8	3.8	10.0	4.8	5.9	2.8	5.8	2.8	32.8	15.8

1 '000 m Rials
2 % share
* 'Others' are ten more industries taken together. These are in descending order of the value of their output in 1971: shoes, tyres, electrical accessories, drugs, paint, leather products, non-alcoholic beverages, alcoholic beverages and glassware

SOURCE Bank Markazi, Iran, Annual Report, 1975-76 (Persian Edition) Table 50

the state's strategy in dispersing this revenue.

Total employment in the above stated industries grew from less than 120,000 persons in 1971 to over 170,000 employees in 1975. This is however only a small proportion of the total workforce which has been 2.5 million on average since 1971. Modern manufacturers employed an average 150,000 workers, or 6 per cent of the industrial labour force. This is a strong indication that modern, especially new, industries, were significantly capital-intensive. The traditional and semi-traditional industries contributed 35 per cent of manufacturing and mining output, and employed 65 per cent of the total industrial workforce.

Relative efficiency in industry can be measured by using the ratio of output to labour employed. This has been done in Table 4.7 over the 1971-75 period.

TABLE 4.7

RELATIVE EFFICIENCY IN INDUSTRY AS MEASURED BY THE RATIO OF OUTPUT TO LABOUR EMPLOYED
(US$, $ = 72 Rials)

Year	Annual output 1	% change	Number of workers 2	% change	Ratio $\frac{1}{2} \times 100$
1971	15,389	-	128,365	-	12.0
1972	18,111	17.7	137,955	7.5	13.1
1973	21,138	16.7	149,811	8.6	14.1
1974	24,889	17.7	161,114	7.0	15.5
1975	28,861	16.0	170,999	6.1	16.9

SOURCE Based on Table 4.6 and Bank Markazi, Iran, Annual Reports 1971-78

The ratios over the 1971-75 period are fairly high indicating that the ratio of machines to men is most likely to be high also. In

other words these industries are capital-intensive rather than labour intensive. Table 4.7 shows that industry is relatively efficient. However, when considering the large increase in investment in the sector during the 1973-74 period it is quite clear that these increases did not give an immediate rate of return. The reason for this is that the capital equipment purchased was often complicated to use and there was not a sufficiently skilled workforce to operate them efficiently. Secondly, investment was directed into heavy industry such as petrochemicals which was very costly and would not give an immediate rate of return.

Table 4.8 gives a further indication of how Iranian modern industries have developed from the workers point of view.

TABLE 4.8

OUTPUT PER WORKER AND EARNINGS PER WORKER IN MODERN MANUFACTURING, 1971-75
(US$, $ = 72 Rials)

Year	Annual output per worker 1	Annual earnings per worker 2	Weekly earnings per worker 3	Ratio $\frac{2}{1} \times 100$
1971	11,988.4	1,230.3	23.7	10.3
1972	13,128.3	1,414.4	27.2	10.8
1973	14,110.0	1,670.1	32.1	11.8
1974	15,448.0	2,022.0	38.9	13.1
1975	16,877.9	2,756.1	53.0	16.3

SOURCE Bank Markazi, Iran, Annual Reports, 1971-77

The first column shows labour productivity and the second and third refer to the workers' annual and weekly earnings. Column three shows rather impressive results but how realistic are they? There appears to be an increase of 123.6 per cent over the period in weekly earnings, that is workers' earnings increased from $23.7 in 1971 to

$53.0 in 1975. But these figures can be misleading. First of all, the data used for workers earnings were not adjusted for the high rate of inflation during this period which was not less than 150 per cent over the five year period. Secondly, the inflation rate for food and accommodation on which the workers spent most of their income was considerably higher than the general rate of inflation. Thirdly, the data used for average earnings was for all employees from directors to doorkeepers, hence including the abnormally high salary earnings of the managerial, administrative and technical staff. The average earnings of the ordinary unskilled worker were much lower than the third column indicates. This is particularly the case during the latter years of the stated period when modern skilled personnel became even more scarce, hence strengthening their bargaining position. Lastly, the figures used refer to total wages and salaries as well as all other benefits like bonuses and shares in the firm's profits.

However, Table 4.8 does give some indication of the distribution of the product between capital and labour in a few selected industry. Column four shows the workers' annual earnings as a percentage of annual output. The workers' share increased from 10.3 per cent in 1971 to 16.3 per cent in 1975. These figures indicate that the workers share has increased no more than the rate of inflation over this period since the output data used was in constant 1969 prices whilst earnings data reflected the purchasing power in each individual year. To summarise the worker's share was about 10 per cent of output. These results are far from showing any significant increase in efficiency in industry. In fact, the increase in earnings to output ratio may reflect inefficiency within the manufacturing industry. The industries used in this analysis were the most privileged and fastest growing industries. Considering the amount of

investment put into these industries one can conclude that the rate of return for the economy as a whole has not been very high. There are no accurate figures on profits in Iranian industry available but both Iranian (private) and foreign investors did benefit considerably from the growth of industry. Iranians made sure they utilised the governments facilities as much as possible and as far as foreign investors are concerned they reported rates of return up to 40-50 per cent per annum on Iranian ventures.

The question of whether the optimum investments were made in terms of benfiting the economy as a whole will be discussed in the following section.

4.5 INVESTMENT PRIORITIES

The Iranian government stressed the broadening of the process of industrialisation by developing heavy capital-intensive industries which the private sector could not set up by itself due to the enormous amount of capital required to do so. The government believed that by doing this it would simultaneously provide incentives for the private sector to invest in consumer durable industries that required less capital.

Whether the government's policies were the correct ones or not can be debated. The main form of expansion of industry took place in capital-intensive import substitition industries but the small labour-intensive units remained dominant in employment terms. By 1976, a mere 17 per cent of the labour force worked in 6,000 manufacturing units with ten or more people. The development of modern industry led to a move from labour-intensive units to capital-intensive ones, yet the major industrial expansion took the

form of a rapid expansion in the artisanal sector despite government policies. The government had discriminated against the artisan sector which was a part of the bazaar economy. In spite of this discrimination this sector showed considerable growth, which is a strong indication of its vitality to the Iranian economy. In contrast the protected modern sector did not perform well. The artisanal sector used its labour effectively although productivity per workers was low as a result of the high contribution of labour to the final product. There appears, however, to have been considerable wastage in the capital-intensive sector. A good example of this is that whilst it takes 25 hours to assemble a GM Chevrolet in West Germany, it takes 45 hours in Iran.

However, what may be of economic disadvantage may be of social advantage as in the case of the artisanal sector. Socially the employment creation brought benefits although economically too many people were employed, which resulted in high factor costs. In the artisanal sector wages were low and due to discrimination against the sector, people began to move into other areas in search of higher wages. These were provided in the government sector and the modern industries. If this trend had not taken place the artisan sector may have been even more prosperous than was the case.

The industrial sector had been protected by very high tariffs. However, instead of using this to allow domestic industry to establish itself so that it could eventually compete in the international market, these tariffs became more of a permanent feature than a temporary measure. It cannot be denied however, that the tariff protection did have positive effects on Iranian industry. Nevertheless Iranian manufactured goods tended to be more expensive,

25-33 per cent higher in 1972, than the average world price. The post-1973 inflation rate increased this gap even further.

An official West German report, published in 1974, gave the following judgement on Iran's high import component in industry: 'Iranian industry produces at too high a price and is not internationally competitive. The reasons for this lie in the high dependence on imports, low level of value added, inappropriate plant size and inadequate project planning. Whereas the intention was to replace imports and to save foreign exchange, the establishment of enterprises that are restricted to the technologically relatively simple final stages of production, such as the assembly of cars, radios and electric domestic appliances, had led to a disproportionate increase in the need to import the necessary components.' [11]

This inefficiency represents a significant and permanent loss of resources for the Iranian nation and it most certainly has reduced the possibilities of increasing exports to meet foreign exchange requirements when oil revenue falls. This has been the main weakness of Iranian industry. One problem was that Iran's imports of consumer non-durables increased rapidly. The reason for this is that government policies favoured, since the 1960s, private production of relatively expensive consumer durables. Hence, domestic demand for basic consumer goods, such as food etc. had to be met by increasing imports.

As far as the capital-intensive industries were concerned Iran experienced a considerable shortage of skilled labour. This resulted in a large inflow of foreign technicians and workers. The skilled foreigners were paid higher salaries than Iranians and they pushed up

the price of scarce housing. This led to great resentments in the country. What Iran needed were massive training programmes to be set up by the private sector and government, in order to step up the qualitative and quantitative aspects of labour training.

In spite of all these inadequacies and inefficiencies the government policies did produce some positive results. The rate of industrial growth, during the 1960-74 period, was one of the highest in the world and with the impact of increased oil revenue in 1974, the growth rate was even greater. However, the question was how long was this trend to last. The government's policy priorities, to continue its emphasis on western style industries, does not seem to have given very encouraging long term results. Small crafts and industries that contributed to production and employment were not developed, hence leading to an increased import bill. What would have benefited the Iranian economy more was if the government had emphasised the development of existing industries as well as the inauguration of modern lighter industries by taking advantage of its large labour force rather than heavy capital-intensive industries that led to minor increases in the level of employment.

The Iranian government had taken on a too difficult task in its attempt to develop heavy industries in an economy which did not have sufficient management and technical know-how. Also the import substitution policy pursued led to increased imports rather than reducing them. The reason for this was, as stated above, that expensive consumer durables were produced instead of basic consumer goods which the government should have invested in on a large scale and developed. In other words there was a case of misallocation of finance. Emphasis should have been placed on developing more

traditional industries which were the comparative advantage industries in the case of Iran rather than new industries. The latter were at a cost disadvantage and Iran most certainly lacked expertise in these fields.

4.6 CONCLUSION

Now that investment in industry has been examined it can be concluded that the government's attempt to develop the sector has had both positive and negative effects. The positive effects were that industrial growth rates in Iran were amongst the highest in the world, many new industries were established such as petrochemicals, which supplied the domestic market with produce which otherwise would have been imported. The negative effects were that most of the newly established industries were highly capital-intensive, and hence did not create sufficient employment for the local population. There was an increasing need for skilled workers in order to operate these highly capital-intensive industries and foreign skilled workers had to be 'imported'.

The various schemes set up to encourage and assist in developing the industrial sector benefited mostly larger firms, and small businesses were not given any signficant assistance to enhance their activities. Oil revenue found its way both directly and indirectly into the industrial sector. Directly through the lending institutions like ICB anbd IMDBI and indirectly through the private sector.

There was a noticeable increase in investment after the 1973-74 oil price boom both in the private and public sectors. There was a large increase in investment in the automobile industry in particular, as well as in other heavy industrial activities. Investments in

sectors such as the food industry did not, however, increase on the same scale. This is the area the government should have concentrated more upon. Instead of wasting valuable funds on nuclear power stations that were never put into use, investment in the basic consumer goods industry should have been emphasised. The government had set out to develop industries that would provide future export potential, but by the end of the 1953-77 period there were no signs of this aim being achieved. The sector's output was only sufficient to partly supply the domestic market, let alone compete on an international level. Iranian industry has far to go yet before it can substitute for the income that the oil sector provides.

NOTES AND REFERENCES

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[3] Ibid, p 154.

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[5] Amuzegar, J.: Iran: An Economic Profile, The Middle East Institute, Washington DC, 1977, pp 93-94.

[6] Ibid, p 95.

[7] Katouzian, H.: The Political Economy of Iran 1926-79, Macmillan, London 1981, pp 278-279.

[8] Ibid, p 275-276.

[9] Benedick, R.E.: Industrial Finance in Iran, Harvard University Press, Boston 1964, p 21.

[10] Ibid, p 22.

[11] Bundesstelle fur Aussenhandelsinformation: 'Investionen in Iran', quoted in (Albrecht U., Ernst, D., Look, P. and Wulf, H.), Rustung und Underentwicklung, Hamburg 1976, p 97.

CHAPTER FIVE

INVESTMENT IN AGRICULTURE

5.1 INTRODUCTION

Iran's agricultural sector remains the least developed sector of the economy. Out of the country's total land area of 165 million hectares a mere 12 per cent has been cultivated, and of this up to half has been left fallow at any time due to the persistence of traditional farming methods. A mere 5 per cent, 8 million hectares, was permanently cultivated. Some Iranian officials did claim, however, that 20 million hectares were cultivatable without taking into account the shortage of water. Estimates have shown that a mere 500,000 hectares enjoy complete irrigation and that only 4.5 million hectares are potentially irrigable. [1]

The main factors that have limited the scale of agricultural production are inadequate infrastructures (i.e. road and rail communications that limit access to markets) primitive production techniques as well as poor seed, and finally inadequate investment. Agriculture received low priority in development plans, even in the Fifth Plan (1973-78). Actual investment in the sector was mostly absorbed in several major dam systems that were designed mainly to meet urban needs. As well as this type of investment, public expenditure was diverted after 1963 to the land reform programme. The main objective of the Shah's White Revolution was the termination of the prevailing land tenure system. The land reform was carried out in three phases and led to the transfer of titles to almost 800,000 families. In addition to the land redistribution aspect, the land reform programme aimed to stimulate agricultural growth by increasing productivity and replacing old subsistence farms with new

market-orientated enterprises. Also, the joint stock Farm Corporation Bill, which the parliament passed in December 1967, sought to merge smallholdings into large units. One of the main weaknesses, however, of the land reform was that it did not provide land for those landless farm workers who were not farm operators.

Roughly half of the country's 35 million population live in the countryside in approximately 60,000 villages. About three quarters of these rural dwellers occupy family-owned land which is typically between four and ten hectares. By contrast, farming units of 52 hectares or more support a mere 7 per cent of rural farm families and account for 16 per cent of all agricultural land. Out of the 5.7 million rural workforce about 60 per cent are engaged in agricultural activities, highly seasonal work with a low income. Many also seek employment in crafts and construction.

More and more farmers have been drawn into the cash economy but at the end of the 1953-77 period, the majority of farmers still produced at or near substantial level. There were limited opportunities for mechanisation or modern system of seeding, irrigation, harvesting or marketing. This was partly because settlements were scattered, and holdings small and fragmented. [2] Four different types of organisations were established during the implementation of land reform to overcome the problem of smallholding size and assure sufficient economic organisation. These were the rural co-operative societies, farm corporations, agribusinesses, and production co-operatives.

As the institutional environment determined both the way in which funds were disbursed, and investment efficiency, it is perhaps

appropriate to say something about the organisation of agriculture at this point. At the start of the land reform, priority was given to the setting up of rural co-operative societies as an instrument for organising small farmers. The major functions of these societies were to provide credit facilities at relatively low rates of interest, to build local and regional warehouses for storing and distributing consumer goods, agricultural inputs and outputs. The co-operatives also purchased the surplus production of their members and sold it in major wholesale markets in order to protect individually weak sellers from excessively unfair dealings with middlemen.

The farm corporations were based on large scale consolidation of lands and exploitation of land and water with intermediate or high level technologies depending on the type of production as well as the availability of manpower. The farm corporations were set up by asking the farmers to exchange their titles to lands for shares in the corporation. The amount of shares issued to members depended on the value of each farmers land. These corporations were operated and managed on a similar basis to that of industrial corporations, the only difference being that the managers, technicians and accountants were employed by the government. The government financed the investments in modern irrigation, drainage, and road building as well as other village infrastructure and technical training. As compared with the rural co-operative societies, the farm corporations required considerably more govenment involvement in terms of capital and technical manpower. [3]

Agribusinesses were established to solve the problem of water and soil management in arable lands under new dams. They were large undertakings of a strictly commercial nature. The government granted

30 year leases, based on the 1968 Law Governing Establishment of Companies for the Developmpent of Lands Downstream of Dams, to foreign and domestic agribusiness companies. [4] Areas recognised as an 'agricultural pole of development', which were basically lands under the dams or group of wells that could be developed through a modern irrigation system, were provided by the government with a general master plan for development including the production pattern. Small farmers had to sell their land to the government for land consolidation, land levelling and construction of irrigation canals. Having done that the government would either rent the land to private agribusiness companies or organise state companies for its exploitation. Most areas which were allocated to private or state agribusiness had relatively low population/land ratios. With the emphasis on capital, technology and management, Iranian agribusinesses attracted foreign investors.

Finally, production co-operatives are similar to that of the farm corporation model in terms of its objectives, cultivation methods and the level at which the government is involved. The only difference between these two is the farmer's right of ownership. In the case of production co-operatives the farmer keeps his title to the land he owns. [5] In spite of the establishment of these various organisations it was within the traditional sector of agriculture that the peasantry was located, and this comprised 55 per cent of the population.

Before proceeding with the discussion of investment in agriculture during the 1953-77 period it should be mentioned that Iran's agriculture consists mainly of crop production. The livestock sector accounts for slightly less than a third of the gross value of

farm output and for about a seventh of that of agricultural exports. Wheat and barley are the principal grains although cotton is the main cash crop and the major agricultural export. [6]

5.2 FUNDING OF INVESTMENT IN AGRICULTURE

Historically, the agricultural surplus has been the main source of finance for the Iranian economy. The state was an agent of exploitation that took the village surplus but apart from this left the village community undisturbed. However, once the state began to use oil revenue as its main source of finance the authorities began to control, if not destroy, the village community. The state was no longer interested in developing the agricultural sector and was only interested in creating a small modern agriculture via the means of agribusiness and farm corporations and turning the majority of the rural population into urban wage labour. In early 1973 the Shah proudly announced that by 1980 there would be no more than 2 million people living on the land. The question is how were the various changes that took place during the period financed? Did oil revenue find its way into the sector or were other sources of finance used?

Commercialisation and modernisation of agriculture took place more rapidly due to the land reform programme and as a result there was an increasing demand for credit. The financial needs of farmers increased considerably over the 1953-77 period as a result of the drastic changes that took place in the sector but the credit institutions were unable to meet all their demands. Table 5.1 indicates that the agricultural credit institutions were only able to provide 31 per cent of the total credit requirements in the 1963-72 period. Commercial banks provided 20 per cent and the remaining 49 per cent was provided by traditional money lenders and bazaar

merchants. The credit obtained from private sources carried high rates of interest, was not production-orientated, was short-term in nature (6-12 months) and on many occasions included the sale of the crops at disadvantageous prices, particularly in the case where traders were lenders. [7]

TABLE 5.1

RELATIVE IMPORTANCE OF VARIOUS SOURCES OF AGRICULTURAL CREDIT, 1963-72
(estimated average)

Institution	Amount (billion rials)	%
Agricultural Co-operatives	9.0	13.6
Rural Co-operative Societies	6.0	9.0
Agricultural Development Fund	0.4	0.6
Tea Board	0.1	0.2
Other Institutions and	5.0	7.6
Total Agricultural Credit Institutions	20.5	31.0
Commercial Banks	13.2	20.0
	33.7	51.0
Non-institutional Credit	32.3	49.2
	66.0	100.0

SOURCE: FAO, Perspective Study of Agricultural Development for Iran, Rome: FAO, 1975

The most important institution in the formulation of agricultural policy was the Plan and Budget Organisation. 'The basis for the Budget Organisation's involvement in agricultural policy is through its review of budget requests from ministries and assessment of their compatibility with larger development plans and priorities.' [8] Table 5.2 shows the disbursements of the Plan Organisation for agriculture and irrigation. In the case of irrigation, which could be regarded as

TABLE 5.2

DISBURSEMENT OF PLAN ORGANISATION FOR AGRICULTURE AND IRRIGATION
(Million Rials)

Year	Irrigation	Land reform	Agricultural credit	Research and extension	Improvements of agricultural products	Conservation of natural resources	Animal husbandry and veterinary	Rural development	Large agricultural units	Agricultural services	Marketing
1962*	2,034	506	423	4	164	33	37	112	N/A	N/A	N/A
1963	3,729	709	1,098	67	277	86	111	207	N/A	N/A	N/A
1964	2,888	1,441	2,698	117	586	128	146	636	N/A	N/A	N/A
1965	3,494	1,598	1,387	122	735	144	343	1,106	N/A	N/A	N/A
1966	3,766	954	497	69	1,199	246	336	1,402	N/A	N/A	N/A
1967	5,611	892	731	72	1,372	405	309	1,326	N/A	N/A	N/A
1968	4,821	813	1,010	367	170	411	595	341	911	1,096	338
1969	6,648	510	900	308	431	562	367	373	1,302	298	732
1970	7,604	391	1,288	366	451	707	401	1,014	1,379	232	566
1971	10,155	577	1,684	908	684	1,600	449	3,006	1,967	377	791
1972	12,629	1,173	4,574	993	821	2,458	700	4,348	2,756	703	1,310
1973	11,953	N/A	3,863	566	900	698	182	2,048	2,422	1,151	996
1974	25,462	N/A	12,603	1,124	2,236	1,535	1,267	2,787	5,035	2,820	1,508
1975	27,486	N/A	12,870	1,224	2,530	1,689	1,668	2,780	5,244	2,330	5,887

N/A Not available
* Figures for second half of 1962

SOURCE PLAN ORGANISATION

one of the most important factors required for developing the agricultural sector in Iran, there was an increase of 226.8 per cent in the Organisation's disbursements in the 8 year period 1962-69, whilst in the 6 year period 1970-75 there was an increase of 261.5 per cent. These figures do not, however, give any indication of whether the agricultural sector as a whole benefited from these disbursements.

The largest portion of the Plan Organisation's agricultural budget after irrigation and agricutural credits at the end of the land reform programme went towards the establishment of 34 agricultural units - corporations and agribusinesses. [9] In the case of the latter, they were set up on virgin land near dams or groundwater projects. The developmnent that took place was in the form of large agricultural units rather than overall development for the smaller units.

Agricultural credit was given a large share of the Plan Organisation's budget at the end of the land reform to enable peasants to purchase their land. There was an increase of 282.5 per cent over the 1968-73 period which marked the final stage of the reform.

The Agricultural Co-operative Bank of Iran, previously known as the Agricultural Bank of Iran, is the oldest and most widely represented credit institution for agriculture, operating through 170 branches. The ACBI was established in 1934. It is 100 per cent state-owned and its main activities have been the provision of short, medium, and long-term credit to individual farmers and rural co-operatives. It also finances special government programmes for the improvement of agricultural production. Table 5.3 shows the distribution of loans granted by the ACBI during the 1963-74 period.

TABLE 5.3

DISTRIBUTION OF LOANS GRANTED BY THE AGRICULTURAL CO-OPERATIVE BANK OF IRAN

Year	Number of loans	Total amount of loans (million rials)	% change
1962	107,968*	1,381	-
1963	319,570	3,427	148.1
1964	603,454	4,131	20.5
1965	547,932	5,479	32.6
1966	249,567	5,167	- 5.7
1967	327,233	5,188	0.4
1968	351,946	5,290	2.0
1969	349,989	5,415	2.4
1970	211,626**	8,909	64.5
1971	232,685	9,582	7.6
1972	N/A	14,381	50.1
1973	N/A	19,993	39.0
1974	N/A	31,116	55.6

* The data for the 1962-69 period is according to data for the Agricultural Bank of Iran as the Agricultural Co-operative Bank of Iran was previously known

** Methods of data collection according to the Agricultural Co-operative Bank for the 1970-74 period may differ slightly to that of data collected for the Agricultural Bank during the 1962-69 period

SOURCE Agricultural Co-operative Bank of Iran

As the table shows, the number of loans over the period has decreased considerably which is most likely due to the fact that at the beginning of the period the ACBI lent to farmers on a lower scale whilst at the end of the period the loans were made to fewer parties, but in larger amounts. The main disadvantage of the ACBI's general lending operations for individual farmers is that the granting as well as the size of each loan is related to more collateral security offered than the economic viability, repayment capacity, or the intended purpose of the loan. The smaller farmers were therefore unable to obtain credit from ACBI.

The Agricultural Development Bank of Iran, established in 1968 and 100 per cent state-owned, is another important institutional source of finance. The ADBI was set up to provide long-term financing for commercial agricultural projects with a minimum limit on loans of Rials 1 million. In addition to deposits, the ADBI took loans from the World Bank. Table 5.4 shows the projects approved by the ADBI during the 1968-74 period.

TABLE 5.4

APPROVED PROJECTS OF THE AGRICULTURAL DEVELOPMENT BANK OF IRAN
(Million Rials)

Year	Number of projects	Loans and participaion	Amount to be paid	Total investment
1968	4	52	28	189
1969	16	320	96	922
1970	39	836	383	2,157
1971	56	1,107	687	2,747
1972	182	1,745	1,062	5,840
1973	310	2,650	1,508	5,725
1974	530	15,660	6,995	30,836

SOURCE Agricultural Development Bank of Iran

In spite of its small share in the total volume of agricultural credit in the country, the ADBI handled the major part of the institutional long-term credit for agriculture. The table confirms ADBI's greatest weakness, that is, the large size of the loans for a very small number of projects. For instance, in 1974 Rials 15,660 million were lent to finance 530 projects, i.e. an average Rials 29.5 million per project. There are several other disadvantages as far as the ADBI is concerned; lack of field organisation, inability to provide short-term credit and high rates of interest. The clientele of the ADBI was therefore limited to large commercial farmers or companies which only accounted for a small fraction of the

total spectrum of agricultural production units in Iran.

Organised credit for Iranian agriculture was also supplied through the rural co-operatives which were, by 1972-73, 8,500 with a membership of 2 million. The rural co-operatives' main function was to provide medium and short-term loans. The resources that were available to the co-operatives included government capital, credit from the Plan Organisation, credit from ACBI and their own capital and reserves. The subsistence farmers were provided with credit, inputs and marketing outlets.

As far as the commercial banks are concerned their lending to agriculture was in the form of credit to big agriculturalists, processors, merchants and exporters, who on occasions re-lent to the farmers at a higher rate of interest. The only commercial banks that were active in agriculture to any significant extent were Bank Melli and Bank Saderat. The loans provided by them were totally unsupervised, short-term and not orientated toward production purposes. [10]

From these analyses it is obvious that the government did not make adequate provisions in its agricultural policy, to provide finance for the smaller farmers who make up the majority of the rural population. Instead they were pre-occupied with setting up the various financial institutions to provide the larger agricultural units with finance.

Finally, oil revenue in relation to agriculture should be briefly discussed. As the various tables above show the credit finance for agriculture increased considerably in the early 1970s which is most

likely due to the rise in oil revenue. However, oil revenue has not been used on as large a scale as expected to enhance agricultural development but rather was used to finance the high import bill for the various agricultural products. In other words oil revenue has enabled Iranian agriculture to remain inefficient much longer than would have been possible for a country lacking oil without this provoking any political consequences. [11]

5.3 ACTUAL INVESTMENT EXPENDITURE IN AGRICULTURE

The investment requirement of Iranian agriculture has been, and still is, considerable. During the first four development plans, the government did not emphasise the development of the agricultural sector but instead was pre-occupied with the development of industry. Table 5.5 illustrates the fact that investment in agriculture was a mere fraction of total investment in the economy. The interesting point is that in 1974 after the 1973-74 oil revenue explosion the share of agricultural investment in total investment actually falls from 9.3 per cent to 8.9 per cent in 1974. At a time when the problems of balance of payments are non-existent one would expect the government to increase its investment in the agricultural sector along with other sectors of the economy but this was not to be the case. Instead, with the aid of oil revenue the government 'bought time' and delayed the development of the agriculture sector.

One of the major problems facing Iranian agriculture has been the scarcity of water and this has therefore led to substantial investment in irrigation facilities. Much fertile land remained undeveloped because of insufficient water supply. Modern irrigation systems in Iran were begun during the reign of Reza Shah in the 1930s when the irrigation department was set up and several dams were built.

However, World War II interrupted these activities but they were resumed again in 1955 under the Shah. Various agencies were set up, all of which had some jurisdiction over water. As Table 5.2 showed then, the share of the Plan Organisation's budget for irrigation was quite considerable.

TABLE 5.5

SHARE OF AGRICULTURE IN GROSS DOMESTIC FIXED CAPITAL FORMATION
(Billion Rials)

Year	Investment in agriculture [1]		Total Investment [2]		Ratio of 1 to 2 (%)	
	at current prices	at constant prices	at current prices	at constant prices	at current prices	at constant prices
1968	8.7	7.9	136.5	126.3	6.4	6.3
1969	10.6	8.9	156.4	131.8	6.8	6.8
1970	10.8	9.0	167.3	139.7	6.5	6.4
1971	17.4	14.4	216.3	179.3	8.0	8.0
1972	25.1	25.1	287.4	287.4	8.7	8.7
1973	36.3	31.6	396.2	339.7	9.2	9.3
1974	N/A	36.3	N/A	406.1	-	8.9

SOURCE Bank Markazi, Iran, Annual Reports, 1972, p 186; 1973 p 71, 1974, p 175

During the Fourth Plan there was some shift in investment orientation from larger irrigation projects and other infrastructure projects to smaller ones with more immediate impact. Emphasis was placed on quick yielding investments to increase food production at a rapid pace. [12] The government invested a considerable amount in large-scale agricultural management units by way of agribusiness enterprises and farm corporations. New techniques were introduced,

mechanisation was encouraged and mixed farming was promoted within these units placed in areas irrigated by dams. By March 1976, investment in agribusinesses had exceeded Rials 21 billion, out of which 45 per cent was provided by the ADBI in loans and equities. As these large scale farms were located in areas of low population-to-land ratio the productivity was expected to be greater than small peasant farming. But the management of such enormous projects was very difficult, major technical difficulties occurred and the results have been mixed. [13]

The traditional cultivation processes in Iranian agriculture were extremely primitive. Introduction of tractors and modern machinery began at a very slow pace up to the mid-1950s. Table 5.6 shows a significant increase in the importation of tractors and machinery after 1958. One should bear in mind that in 1958 new legislation was passed whereby farmers were able to purchase agricultural machinery on credit.

TABLE 5.6

IMPORTS OF TRACTORS AND AGRICULTURAL MACHINERY, 1955-68
(Weight in thousand metric tons, value in Million Rials)

Year	Tractors		Machinery		Total	
	weight	value	weight	value	weight	value
1955	0.6	47	1.0	92	1.6	139
1956	0.9	69	0.6	32	1.5	101
1957	1.6	168	1.3	99	2.9	267
1958	6.3	621	4.8	369	11.2	990
1959	6.0	570	3.8	310	9.8	880
1960	6.4	717	3.6	353	10.0	1,070
1961	6.1	632	4.9	589	11.0	1,221
1962	4.3	478	4.0	429	8,3	907
1963	3.5	396	2.1	213	5.6	609
1964	9.8	1,019	6.0	646	15.8	1,666
1965	9.8	1,119	5.3	525	15.1	1,644
1966	10.7	999	5.0	514	15.7	1,513
1967	14.2	1,181	6.3	540	20.5	1,721
1968	13.2	1,190	6.4	591	19.6	1,781

SOURCE Julian Bharier, Economic Development in Iran, 1900-70, Oxford University Press, 1971, p.142

By 1966, 16,000 tractors were in operation in the country as well as some 10,000 power filters in the rice growing areas. By 1971, there were some 23,000 tractors in operation, many of which were run by private contractors. However, in spite of this increase in the use of tractors the vast majority of farmers continued to use traditional animal-drawn or hand-operated tools that had virtually remained in use since ancient Persian times. At the beginning of the 1960s mechanical power was used on less than 10 per cent of land holdings and about 4 per cent were fully mechanised. Approximately 75 per cent of all land holdings used animal power while 15 per cent used human power. By 1974 most Iranian farmers were still using the iron-tipped wooden plough that did little more than scratch the soil. Steel ploughs were used by less than a tenth of the farmers. Few implements besides the plough were used and weeding was mostly done by hand. [14]

The government did make considerable efforts to mechanise agriculture. An agreement was made in 1966 with Romania that called for the importation of some 20,000 tractors. This was implemented over a period of several years. The same agreement also called for the construction of a tractor assembly plant at Tabriz which, when established, produced 5,000 tractors per year. [15] The agreement did not, however, bring about the success the government had expected in modernising the sector as the tractor model they chose was an old type which was far from being efficient.

Under the Fifth Plan, funding of agriculture increased as compared with previous plans. However, as Table 5.7 shows by the end of 1975 a mere 49.4 per cent of the planned Rials 310 billion had been invested. This planned figure was the lowest investment figure given to any of the sectors, and although it was higher than in previous

budgets, it was insufficient. Much of it was being allocated to rich peasants in order to meet their relatively short-term requirements.

TABLE 5.7

ESTIMATED AND REALISED TOTAL FIXED INVESTMENT BY MAIN SECTORS, 1973-77
(Billion Rials)

Sector	Estimated 1973-77	Realised 1973	1974	1975
Agriculture	310	28	53	72
Oil and Gas	791	N/A	49	106
Industry and Mining	846	56	119	235
Housing (Construction)	925	N/A	121	210
Transportation and Communication	492	N/A	101	234
Other	1,334	N/A	120	243
TOTAL	4,698	363	563	1,100

SOURCE Bank Markazi, Iran, Annual Report and Balance Sheet 1975, p 34; 1976, p 8

The government had hoped for a combined public and private enterprise investment, during the Fifth Plan, in order to expand food production and processing. Both sectors were allied in many of the country's 400 meat, dairy and poultry complexes with several of them fully integrated food industries. The government also made a major effort to encourage private investment in fertilizer and pesticide factories as well as agribusiness enterprises. But despite the government's support and in part due to its interventions, the agricultural sector did not attract private capital. The sector accounted for only a small fraction of the impressive 95 per cent increase in private investment recorded during 1975-76. Agriculture

calls for long-term commitments by investors which is a striking contrast to the quick and lucrative returns that existed in the industrial sector.

The level of investment in agriculture can therefore be said to be quite insufficient in order to develop the sector sufficiently for it to provide at least the domestic market with the agricultural products demanded. As a result of this insufficient investment in the sector there was a considerable increase in the level of imports of agricultural products which weakened the sector even further.

5.4 EFFICIENCY OF INVESTMENT EXPENDITURE IN AGRICULTURE

Now that the funding and actual investment have been discussed the efficiency of these investments shall now be considered. Despite the land reform, some major irrigation projects, and experiments with modern forms of farm organisations, Iranian agriculture has not performed well. Iranians did come to realise that the agribusinesses they so much favoured did have a number of serious disadvantages. One of the greatest disadvantages being that they are capital intensive businesses rather than labour-intensive. When the majority of the Iranian population lived in rural areas this system of operation was far from being suitable. There was a great influx of people from the rural areas into the urban centres in search for work. Iran did not have the resources to absorb the large number of farmers who were moved off their land to make way for the large farming units.

Table 5.8 can give some indication of how efficient investment was during the 1959-72 period by using agricultural growth rates during this period. The table shows that there has not been any significant increase in growth rates, although in the 1965-67 to

1970-72 period in most instances the growth rates have been greater than in the 1959-61 to 1965-67 period. In the case of agricultural value added per person the growth rate for the rural population was low even though many moved off the land and the growth in the agricultral workforce was well below population growth.

TABLE 5.8

AGRICULTURAL GROWTH RATES, 1959-72

	Average annual growth rate (%)		
	1959-61 to 1965-67	1965-67 to 1970-72	1959-61 to 1970-72
Value added in agriculture			
current prices	5.5	7.5	6.4
constant prices (1959)	3.1	4.4	3.7
Production of selected commodities			
wheat	2.5	3.5	2.9
barley	2.9	-0.4	1.4
rice	4.2	4.0	4.1
red meat	2.0	3.1	2.5
milk	-0.2	2.7	1.1
Population			
rural	1.7	1.9	1.8
total	2.9	5.4	3.1
Agricultural value added per person			
rural population	1.6	2.3	1.9
total population	0.4	0.9	0.6

SOURCE Iraust, Kermanshahan Agriculture and Livestock Development Project, Final Report (Tehran Iraust, 1974)

Agricultural production rose by at most 2.5-3 per cent per annum since the early 1960s and in some years by as little as 1 per cent. This is less than the rate of increase in population of 3 per cent and

well below the combined rate produced by the rise in population and income. The demand for agricultural produce was rising by 12.5 per cent per annum by the mid 1970s and was expected to reach 14 per cent during the following decade as incomes rose over a wide spectrum. The demand for red meat, which is highly income-elastic, has been particularly responsive to the rise in income: per capita consumption of 8 kilos increased to 18 kilos per annum in the mid 1970s and was expected to rise even further by the 1990s. In the case of Tehran, where the better off were mostly located, there was an increase of 100 per cent in the consumption of red meat over the 1974-75 period.

Initial shortfalls in agricultural production is a common phenomenon in the aftermath of land reform. In the case of Iran however this weakness continued long after the short-term disruption of the reform had worn off. The Iranian government met increased demand by way of imports rather than by trying to impose constraints, and to avoid discontent a food subsidy programme was implemented which ran up a very high bill. As stated previously, oil revenue enabled the government to meet those increasing imports and at the same time allowed the agricultural sector to continue to be inefficient for a considerably longer period of time than otherwise would have been possible. [16]

Table 5.9 shows production indices of the sector during the 1961-73 period. Total agricultural production appears to have steadily grown during the period with the exception of a slight fall in 1969 to 128 from 133 in the previous year and in 1971 when the index fell by 3.1 per cent from the previous year. The average growth during the period was a mere 3.8 per cent which was clearly insufficient to meet the increased demand for food as well as the

increase in population. The table also shows that per capita agricultural production has increased by a mere 0.9 per cent on average which is a very low figure.

TABLE 5.9

PRODUCTION INDICES OF IRANIAN AGRICULTURE, 1961-73

Year	Total agricultural production (100 = 1961-5)	% change	Per capita agricultural production (100 = 1961-5)	% change
1961-5	100	-	100	-
1964	97	-	94	-
1965	105	8.3	99	5.3
1966	110	4.8	101	2.0
1967	122	10.9	109	7.9
1968	133	9.0	115	5.5
1969	128	- 3.8	108	- 6.1
1970	131	2.3	107	- 0.9
1971	127	- 3.1	100	- 6.5
1972	133	4.7	102	2.0
1973	135	1.5	101	- 1.0

SOURCE US Department of Agriculture, Iran: Agricultural Production and Trade, 1974, p 11

The reasons for this shortfall in output are as follows: firstly, there are absolute limits on raising output, i.e. the major part of Iran is not cultivable. Secondly, in spite of changes in the pattern of ownership no automatic change for the better in cultivation methods took place. Thirdly, the lack of capital injections, throughout the 1960s and 1970s, into the rural sector. Fourthly and finally, the absence of a peasant movement and the failure to convert peasant acceptance of the state into an active, mobilised commitment to raise production. The bureaucratic character of the land reform was emphasised by the failure to produce enough food. [17]

But what is the position of agricultural output as compared with

the other sectors of the economy? Table 5.10 shows the output and employment of the three major non-oil sectors of the economy. The table shows that although the share of agriculture in employment was 33.3 per cent in 1977-78, its share in total output was only 14.7 per cent. Hence it was the least productive sector, which is disappointing considering that at one stage Iran was largely an agricultural economy. The largest employment sector in the same period was the service sector which also contributed the greatest output or 55.6 per cent of the total. What is of interest here is that the share of services in output is considerably higher than its share of employment whilst the share of agriculture in output is very much lower than its share of employment. The reason for these differences can be analysed with the aid of Table 5.11.

TABLE 5.10

CONTRIBUTION OF THE NON-OIL ECONOMIC SECTORS TO OUTPUT AND EMPLOYMENT, 1977-78

Sector	Output		Employment *	
	'000 m Rials	% of total	m	% of total
Agriculture	339.0	14.7	3.0	33.3
Industry	684.3	29.7	2.8	31.3
Services	1,281.3	55.6	3.2	35.6
Total	2,304.6	100.0	9.0	100.0

* excluding official unemployment

SOURCE H. Katouzian: Political Economy of Modern Iran 1926-79, 1981 Table 13.3, p 260

TABLE 5.11

ABSOLUTE AND RELATIVE PRODUCT PER WORKER IN VARIOUS ECONOMIC SECTORS

Sector	1962-63		1977-78	
	Product per worker ('000 rials)	Relative product per worker	Product per worker ('000 rials)	Relative product per worker
	1	2	3	4
Agriculture	24.2	0.60	105.9	0.45
Industry	42.1	1.00	267.3	0.88
Services	75.6	1.90	380.3	1.62
Total non-oil output per worker	40.2	1.0	233.6	1.00

SOURCE H. Katouzian: The Political Economy of Modern Iran, 1926-79, 1981, p 261

Columns 1 and 3 show the productivity per worker for the three sectors in the two periods. Columns 2 and 4, on the other hand, show the relative product per worker in the same sectors. When the figures in columns 2 and 4 are compared, the relative product per worker in both periods is considerably lower for agriculture and greater for services. The 1977-78 figures indicate that the position of agriculture had worsened as a result of the decline in the relative product per worker as compared with the other sectors. [18]

In conclusion to this section it can be said that there has not been a great efficiency in investment expenditure in Iranian agriculture. There are various reasons for this, one being that the investment priorities of the government have been the wrong ones. Section 5.5 will now consider the government's investment priorities in more depth.

5.5 INVESTMENT PRIORITIES

Agriculture deserves an important place in the planning effort of developing countries, yet because many governments are over-concerned with industrial growth, they have failed to place sufficient emphasis on agricultural planning as a part of the national planning effort or to realise the critical relationships between agricultural growth and overall economic development. More recently, the poor performance of agriculture and its drag on economic development has forced greater attention to be paid to agriculture. This has been the case in Iran.

The most obvious reason for agriculture's importance in national economic planning is its sheer dominance. In most less developed countries it is the major industry as well as the major source of livelihood. Iran is no exception. With over half of the population engaged in agriculture during the 1953-77 period the sector can be regarded as the main source of livelihood for the majority although in the 1970s oil revenue has become the major source of finance. However, as far as the oil sector is concerned only a small proportion of the labour force is engaged in the sector.

Once the decision to enhance development through conscious efforts has been made, the agricultural sector could become a source of relatively inexpensive, yet important gains. As compared with the investment costs of achieving increases in many industrial activities, increased agricultural output is relatively inexpensive. As far as Iranian agriculture is concerned the planners could concern themselves primarily with a 'closed system' largely unaffected by foreign trade. This means that since the oil industry provides the nation with foreign exchange, there is no desperate need to develop the agricultural sector on a level of export requirement but rather

concentrate on developing the sector to supply the domestic market with the required food products.

Therefore, one constraint is removed in the development of agriculture, that is the need to develop it to an export level is unnecessary. From the previous analysis in this chapter it is quite clear that the government's investment priorities did not suit the Iranian agricultural sector. Its aim to develop small commercial sectors with about 2 million people living on the land failed. The large farming units did not succeed due to lack of management skills, insufficient technical knowledge etc.

Investment in smaller agricultural units would have most likely benefited the sector better. The problem was that an attempt was made to develop the sector too quickly. The development of agriculture requires a long-term commitment by the investors and in the case of the government there was not enough consistency in its investment strategies. Instead of adopting more labour-intensive techniques in which Iran had a comparative advantage, capital-intensive techniques were adopted.

There was an obvious need to mechanise the sector. An agreement was made with the Romanian government to purchase tractors which were desperately needed to increase efficiency and output. By using tractors the farmer could plough deeper and therefore utilise the soil more efficiently. However, the type of tractors that were purchased from Romania were old large scale models that did not prove to be as efficient as expected. A smaller type of tractor is likely to have been more efficient. Since the Iranian government chose to provide the sector with this kind of intermediate mechanisation it might have

been more advantageous to provide the farmers with mechanical rotavators instead of large inefficient tractors. This case clearly illustrates the lack of careful consideration for the development of the sector.

The lack of investment in the appropriate areas of the sector explains the reasons for low output and therefore the high level of imports of foodstuffs which were necessary. A sector, which could be highly beneficial to the development of the country, if invested in and developed properly, has been more or less wasted. Emphasis was placed on developing the industrial sector and promoting it to a level of that of the industrialised countries. This did not suit Iran. There was a lack of technical skills, as was the case in the agribusinesses and farm corporations that were set up in the agricultural sector, whilst Iran required the enhancement of the labour-intensive techniques in its economic sectors. There was a clear urban, consumer bias on the part of the government and until that is removed and the state sets its priorities right, the agricultural sector cannot be developed successfully.

5.6 CONCLUSION

The Iranian agricultural sector is of immense importance to the Iranian economy. With over half of its population located in rural areas up to the 1970s there was a great need to develop the sector in order to raise incomes of those living on the land and to meet the growing demand for foodstuffs.

Attempts were made to mechanise and develop the sector by means of creating large agricultural units. These units used less labour intensive techniques than the smaller farms did, hence there was a

considerable influx of people from rural areas into the urban centres. In adopting these large units the planners had obviously not taken into account where they were going to place those rural immigrants who came to the cities in search of work.

As far as financing of the investment in the sector was concerned, there were adequate credit facilities created to meet the demands of the larger farming units whilst the smaller farmers did not have any access to these facilities.

The government tried to attract private investors to invest in agriculture but did not have any great success. The sector accounted for only a small fraction of the impressive 95 per cent increase in private investment in the 1975-76 period. The reason for this lack of interest was most likely due to the fact that investment in agriculture requires a long-term commitment and does not provide the investor with quick returns.

The efficiency of investment in the sector has been low. An average growth rate of 2.5-3 per cent has not been adequate especially when taking into account the rate of increase of population and income.

It is quite clear that the investment priorities in the sector have been neither appropriate nor adequate. If the sector is to be developed for the benefit of the people living in the rural areas, while at the same time minimising urban problems, more investment is required. This must be tackled while there is sufficient oil revenue available to finance this task.

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[17] Halliday op cit, pp 128-129.

[18] Katouzian, H.: The Political Economy of Modern Iran 1926-79, MacMillan 1981, pp 260-261.

CHAPTER SIX

ECONOMIC DEVELOPMENT UNDER DUALISTIC CONDITIONS

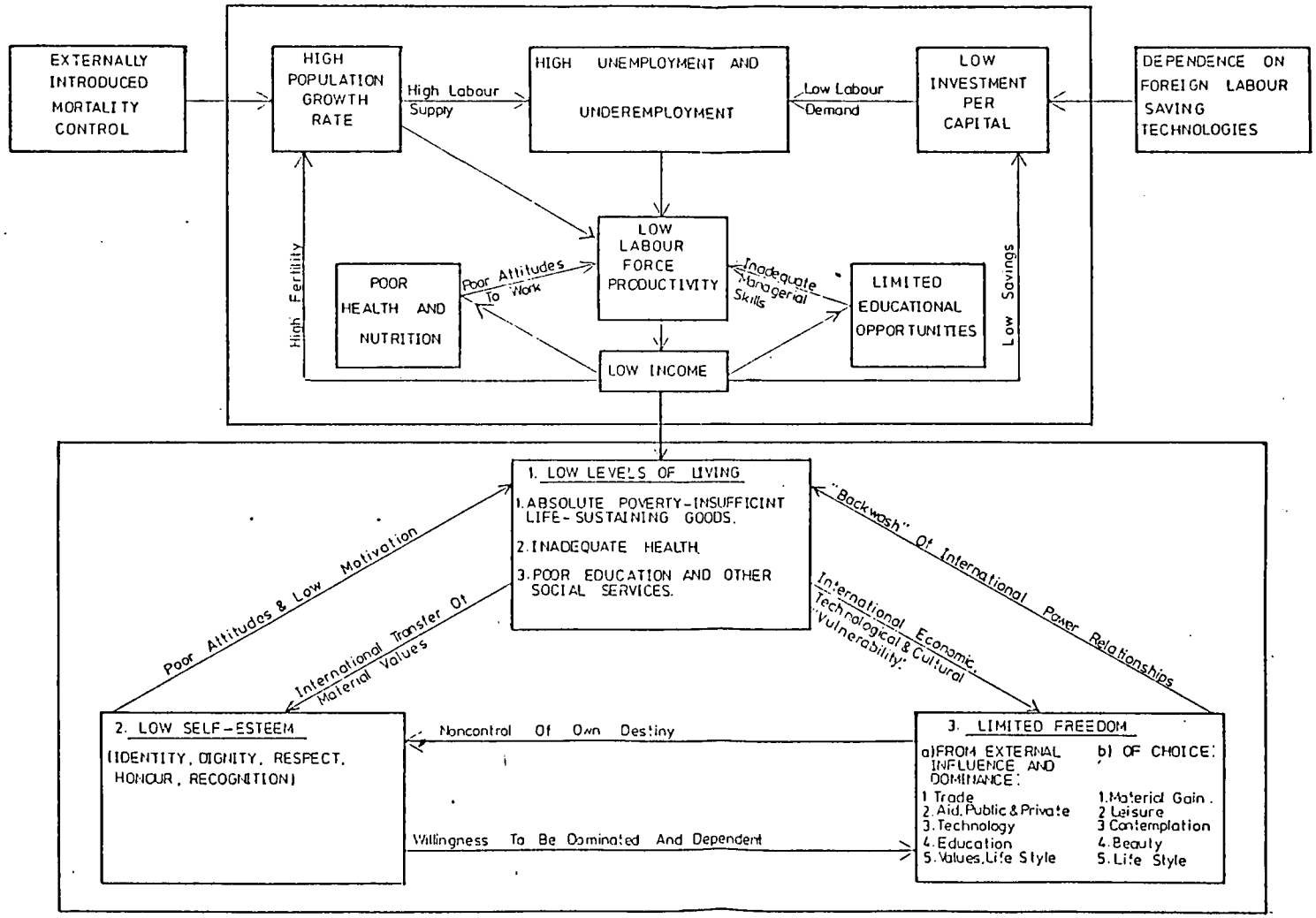
6.1 INTRODUCTION

The analysis in the previous chapters has shown that considerable economic growth has taken place within the Iranian economy. This growth was a result of increased oil revenue and its allocation to the various sectors of the economy, in particular the modern industrial sector. The meaning of economic growth here is more output derived from greater amounts of inputs and to some extent greater efficiency within the modern sector as a result of greater mechanisation. However, although the terms 'growth' and 'development' are sometimes quite acceptably used synonymously in economic discussion, these two terms have separate meanings here. Development implies both more output and changes in the technical and institutional arrangements by which it is produced and distributed. In this chapter some aspects of economic development in the Iranian economy will now be discussed.

Figure 6.1 illustrates the various factors that contribute to a country's underdevelopment. Some of these factors apply to Iran although the 1955-77 period saw some improvements. In it the three primary components of underdevelopment are low standards of living, low esteem and limited freedom - the latter two being social aspects. The arrows indicate general lines of causation. The upper half of the chart relating to the determinants of standard of living illustrates the main economic aspects of underdevelopment. The employment aspect will be discussed in detail in this chapter in order to examine whether there have been any improvements in this field in Iran up to 1977. Specific emphasis will be placed on employment opportunities created as a result of increased government oil revenue, incomes and

FIG. 6.1

UNDERDEVELOPMENT
A MULTIDIMENSIONAL SCHEMATIC FRAMEWORK



SOURCE: M.P. TODARO: ECONOMIC DEVELOPMENT IN THE THIRD WORLD; LONGMAN, LONDON 1981, P.73.

wages of the Iranian labour force and finally the regional differences - where rural-urban migration will be examined.

Before economic development from the employment point of view will be discussed, linkages between the various sectors of the economy will be examined. The Iranian economy has strong dualistic characteristics where a modern dynamic sector exists alongside a traditional sector. The modern sector is composed of oil fields and large scale industries with a very limited degree of technical substitutability of the factors of production, i.e. capital and labour. The traditional sector is dominated by peasant agriculture and handicrafts as well as very small industries (usually small family enterprises). A wide range of production techniques can be used within the traditional sector and alternative combinations of labour and capital can be made. The traditional sector is a labour-intensive sector as opposed to a capital-intensive modern sector.

These strong dualistic conditions within the Iranian economy were promoted by increased oil revenue expenditure. Rather than enhancing the development of the country for the benefit of all, there appears to have been a tendency for the abundant revenue supply to worsen these dualistic conditions. In the 1910-50 period the Iranian oil sector remained divorced from the rest of the economy. However, during the post-1951 period, after the nationalisation of the industry, this changed. The government's oil revenues were channelled into what were believed to be productive investments - especially in promoting the modern sector. How productive these investments were and how they contributed to the development of the country remains to be answered. It should be noted at this point that the Iranian case is somewhat different from other dualistic economies found in the

existing literature. One difference was that instead of shifting the economy's centre of gravity from the static to the dynamic sector, the growth-stimulating effects of the dynamic sector should spread throughout the traditional sector by transforming the dynamic centre into an engine of growth. [1] This mechanism was thought important because of the scale and breadth of Iran's traditional sector.

6.2 LINKAGES

In the previous chapters the impact of oil revenues on the various sectors of the Iranian economy were dealt with. In this section the relationship between the oil sector and the various economic sectors through backward and forward linkages will be analysed. Also, linkages between the modern sector and the traditional sector will be discussed.

Forward linkages between the Iranian oil industry and the other sectors of the economy are represented by the flow of low cost fuel from the oil sector to the national economy. This low cost fuel provided an inducement for the Iranian economy to utilise oil as a source of energy in place of other energy resources and to establish petroleum-based industries. By 1972 the oil industry supplied 70 per cent of domestic energy requirements. [2] This clearly demonstrates that 'some' integration between the oil industry and the national economy did take place in the post-1951 period. But has this integration been adequate? Considering that the oil industry has provided the main source of finance for the development of the country, its forward linkages to the rest of the economy such as agriculture have not been sufficient. The reason for this is simply that due to the nature of Iranian agriculture, low-cost fuel is not of much use within a sector that is not greatly mechanised. However,

even if the agricultural sector had been fully mechanised, and greater forward linkages existed, it would possibly have benefited economically the country but not necessariy been socially beneficial. Output would possibly have increased in the agricutural sector but employment would have been likely to fall. Migration from rural to urban areas would have increased even more than it already did. However, forward linkages could be said to benefit the country in the case of this link with the modern sector as the low cost fuel would lead to lower unit costs. In Iran such forward links were non-existent with the agricultural sector.

The flow of resources from the domestic economy into the oil industry represents the backward linkages. These types of linkages as far as capital expenditure is concerned have been particularly weak in Iran. The domestic economy has been unable to provide the capacity required to provide the oil industry with its highly sophisticated and costly machinery. The oil industry is very capital-intensive and that intensity has been increasing over the 1955-77 period. The only time the domestic economy has provided the industry with capital goods was in 1968 when the Ahwaz pipe mill was constructed. The plant produced pipelines for oil products and crude oil in various parts of the country. In spite of a recognition from the American Petroleum Institute which authorised the plant to use the standard mark of the API, the pipes made in this plant were more costly than pipes available on the international market. [3]

The Iranian oil industry provided financial linkages with the rest of the economy, in particular the establishment of the modern manufacturing sector. Like the oil industry, manufacturing industry was highly capital-intensive. This led to high levels of imports of

capital equipment. These modern industries were set up despite the fact that the existing industries were not able to provide the inputs required for such sophisticated plants.

Table 6.1 shows clearly that Iran was increasingly becoming more dependent on the import of intermediate goods during the 1959-74 period. In 1959 intermediate goods accounted for 49.2 per cent of all imports, of which 40 per cent were intermediate goods for industry and mines and a mere 0.3 per cent for the agricultural sector. This shows that the newly established industries were not suitable for the Iranian economy. By 1974 the imports of intermediate goods had increased to 64.5 per cent of total imports, of which 50.3 per cent went to the industry and mining sector and 1.8 per cent to agriculture. Although the share of industry in these imports has fallen slightly, the imports of intermediate goods for industry alone are greater than the total imports of capital and consumer goods added together. Hence it can be said that when taking into account the high cost of capital goods for the modern sector (including the oil sector) the total import of intermediate goods for industry is considerable. This high level of demand for intermediate goods which was met by the importation of the goods implies that the local multiplier was minimal.

These results clearly demonstrate that there was a total lack of linkages between the modern and traditional sectors, whether they were financial or production linkages. The traditional sector, if encouraged and invested in, would have probably been able to supply the modern sector with a large portion of the required intermediate goods. However, there were no moves made to encourage such production. To illustrate this point it is worth looking at the

TABLE 6.1

COMPOSITION OF IMPORTED GOODS, 1959-74
($ millions)

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
INTERMEDIATE GOODS	267.5 (49.2)	324.6 (42.2)	329.9 (53.4)	313.2 (57.2)	285.1 (55.9)	408.0 (55.0)	518.2 (57.7)	558.2 (57.9)	711.0 (59.7)	856.5 (61.7)	97873 (64.0)	1,068.5 (63.7)	1,336.3 (64.8)	1,596.2 (62.1)	2,273.7 (60.8)	4,266.4 (64.5)
Industries and Mines	217.7	261.9	260.6	234.9	221.9	317.9	410.1	444.5	545.3	641.7	737.4	845.0	1,110.9	1265.8	1,912.0	3,324.5
Construction	26.2	40.4	35.5	49.8	34.8	58.8	69.2	74.7	120.8	147.0	152.7	145.8	138.5	204.3	237.8	375.8
Services	22.1	19.9	29.1	23.5	22.1	24.7	30.7	31.3	30.9	52.1	64.8	52.7	57.8	97.4	76.3	444.1
Agriculture and livestock breeding	1.5	2.4	4.7	5.0	6.3	6.6	8.2	7.7	14.0	15.7	32.4	25.0	29.1	28.7	47.6	122.0
CAPITAL GOODS	112.1 (20.6)	167.1 (24.3)	129.8 (21.1)	114.9 (21.0)	104.4 (20.3)	162.4 (21.9)	223.0 (24.8)	260.7 (27.1)	329.3 (27.7)	376.3 (27.1)	387.2 (25.1)	391.6 (23.3)	482.9 (23.4)	642.6 (25.0)	906.0 (24.2)	1,330.9 (20.1)
Industries and mines	60.1	84.1	74.8	81.0	54.0	72.8	132.1	160.1	230.2	239.1	316.2	263.7	316.6	411.9	560.3	770.4
Services	33.1	39.1	29.4	20.6	26.7	47.7	55.8	63.9	71.5	103.8	30.9	91.2	132.7	168.4	273.0	464.6
Agriculture	19.0	13.9	25.6	13.3	23.7	41.9	35.1	36.7	27.6	33.4	40.1	36.1	33.6	62.3	72.7	95.9
CONSUMER GOODS	164.6 (30.2)	196.6 (28.6)	156.9 (25.5)	119.5 (21.5)	124.0 (24.2)	171.9 (23.2)	157.2 (17.5)	144.8 (15.0)	150.0 (12.6)	156.4 (11.3)	168.2 (10.9)	2,171.1 (12.9)	241.7 (11.7)	331.6 (12.9)	557.4 (14.9)	1,016.4 (15.4)
TOTAL	544.6	688.3	616.6	547.6	513.5	742.3	898.4	963.7	1,190.3	1,389.2	1,542.7	1,676.6	2,060.9	2,570.4	3,737.1	6,613.7

SOURCE Bank Markazi, Iran, Annual Reports and Balance Sheet, various issues

Iranian car industry. The car assembly plants imported most parts of the vehicle from the body-frame to the smallest bolt required for the assembly. This, most definitely, could have been provided by the traditional sector especially as metal working had been long established in Iran. This is, of course, a very crude example but because of the total neglect by the government the traditional sector, which in all likelihood would have been a potential intermediate goods producer, did not provide the modern sector with these goods. Hence they were imported.

In its production of consumer goods the modern sector has been supported by means of tariff protection, public subsidies and publicly sanctioned high retail prices designed to ensure profitability. The plan was to provide protection for these heavily imported-dependent industries until these new industries began to mature and expand sufficiently. [4] By the end of the 1955-77 period, this had not materialised adequately to remove these protection barriers. As Table 6.1 shows the level of consumer goods imports decreased constantly from 30.2 per cent of total imports in 1959 to 10.9 per cent in 1969, but by 1974, it had increased slightly to 15.4 per cent of the total.

Tariff protection was not given to intermediate goods. This did not provide encouragement for the traditional sector to expand in this area. Such protection might have strengthened domestic linkages, as some metal goods could have been provided by the sector, given traditional skills in metal working.

From this analysis it is clear that there was a lack of linkages between the oil sector and other sectors of the economy with the exception of a financial link with the newly-established modern

sector. The same applies to the relationship between the modern sector and the traditional sector where there was a total lack of linkages. Clearly, the ability of the traditional sector has not been taken advantage of whilst new western types of industries were established which were clearly totally unsuitable for the Iranian economy.

6.3 LABOUR ISSUES

What is of crucial importance in the evaluation of Iran's development and its ability to utilize oil revenue for the betterment of the people, is the extent to which economic growth in Iran has created new job opportunities. This will now be examined.

Table 6.2 shows the Iranian labour force by major economic sectors during the 1962-76 period. The agricultural sector employed 43.6 per cent of the total labour force in 1970-71, industry 27.8 per cent, services 28 per cent, and oil a mere 0.6 per cent. By 1975-76 agriculture employed 34.3 per cent, industry 34.5 per cent, services 30.4 per cent and the share of employment in the oil industry increased only slightly to 0.9 per cent.

These results obviously show that although oil has dominated the Iranian economy, the industry has been a factor of small importance as far as employment is concerned. Very few people are employed in the direct process of oil production - in exploration, production, refining and loading. Moreover, in the case of Iran as in so many under-developed economies, the oil sector established few linkages with the local economy. This is due to the fact that as it brings its technology and capital goods from abroad, it fails therefore to create employment elsewhere in the economy.

TABLE 6.2

LABOUR FORCE BY MAJOR ECONOMIC SECTORS, 1963-78
(thousands)

Year	Agriculture	Industry	Services	Oil	Total*
1962-63	3,672	1,372	1,584	36	6,664
1967-68	3,861	1,947	2,020	46	7,874
1970-71	3,720	2,370	2,390	50	8,530
1971/72	3,535	2,570	2,730	50	8,885
1972-73	3,515	2,685	2,790	50	9,040
1973-74	3,495	2,950	2,870	50	9,365
1974-75	3,470	3,220	2,950	90	9,730
1975-76	3,445	3,460	3,050	90	10,045
1977-78	3,200	3,300	3,379	60	9,939

* Official estimates based on the labour force of 12 years old or older individuals give the total labour force in 1975-76 as 8.5 million of which more than 8.3 million were reportedly employed.

SOURCE Estimates from figures released by Iran Statistical Centre and Bank Markazi, Iran

The agricultural sector is undoubtedly the largest employment sector in the economy. Although Table 6.2 shows a decrease in the labour force within the sector over the 1970-76 period, the share of agriculture in employment is still high. Allowance should be made, when considering these figures, for the large female population in the agricultural sector which is not accounted for in the data.

Employment in the manufacturing sector has increased significantly in the past two decades and as Table 6.2 shows there was a 46 per cent increase in industrial employment. However, this increase has not entirely taken place within large-scale industry but gone together with a multiplication of smaller scale enterprises. The 'core' industrial labour force in Iran are those employed in industrial units of over ten people. This was estimated at about 700,000 or about 7 per cent of the total economically active population. The numbers in genuinely large enterprises will be even smaller. [5]

At this point Arthur Lewis' model of development should be briefly discussed in relation to the dualistic structure of the Iranian economy. In his model Lewis assumed two sectors existing in the economy, a capitalist sector and a traditional sector. The capitalist sector was believed to have no relationship with the traditional sector apart from absorbing labour from it. He also stated that an unlimited flow of labour could occur in countries where the population is so large relative to capital and natural resources that 'there are large sectors of the economy where the marginal productivity of labour is negligible, zero or even negative'. Lewis was impressed by the widespread, existence of 'disguised unemployment' in family farms, and in small retail trading. In these areas of work, each individual gains a limited income for his effort and if some migration occurs, those remaining behind could easily work a little harder so that total production would remain the same.

The central problem in the theory of development is seen by Lewis as being how to understand how a community previously saving and investing some 4 or 5 per cent of its national income, or less, becomes one where voluntary saving is running at about 12 to 15 per cent or more. The main issue in development is that the distribution of income is altered in favour of the classes that do save, i.e. those that receive profits and rents. Savings and investments are minimal if not non-existent in the subsistence economy, not as a result of low average incomes but due to a small share of profits in income. As the share rises, so do savings and investments.

In his model Lewis further assumes that employment in the capitalist sector increases with a continuing inflow of labour from the subsistence sector, as capital formation occurs. The LDC will

eventually become a MDC when the supply of labour out of disguised employment dries up. [6]

Having briefly outlined Lewis' model the question of how appropriate the model is to the Iranian economy remains to be answered. The Iranian economy as previously stated has very strong dualistic characteristics as the model requires. Iran has seen a large flow of labour from rural areas to urban areas because it has a very large population in relation to its private capital. But, as far as natural sources are concerned it is questionable whether it can be said that Iran's population is large relative to its resources of oil. Within the agricultural sector the marginal productivity of labour is close to zero. Disguised employment in Iran exists on a considerable scale. All these factors apply to Lewis' model. However, what should be noted is that the capitalist sector has not been able to absorb all the workers coming from rural areas. The capitalist sector required skilled labour and most of the migrants did not have the appropriate skills. Therefore the capitalist sector was unable to absorb labour from the traditional sector as the model assumed. This clearly illustrates that Lewis' model could not be applied to the Iranian situation.

The modern sector of the Iranian economy experienced a persistent, and growing shortage of skilled labour required to carry out the expanding production activities in the sector. Shortages of skilled workers, foremen, technicians and qualified managers were said to impede the growth of manufacturing industry. This shortage of skilled workers does not necessarily mean that if the labour had been available that the sector would have been able to absorb all of the available labour force. In fact the modern sector only provided a

small proportion of the total available workforce with employment. The majority of the workers remained employed within the traditional sector where their skills could be utilised in small workshops employing less than 50 people. They however received a much lower wage than in the larger modern factories.

Table 6.3 shows the occupational pattern of employment in Iran. The number of agricultural workers has decreased only slightly during the 1956-72 period. Employment in industry decreased over the 1966-72 period which could indicate the increasing use of capital equipment rather than human capital in production. What the table indicates is that jobs were created at the higher end of the spectrum rather than the creation of lower paid jobs. Agriculture did however still employ almost half of the country's labour force by 1972. Another of Lewis' assumptions that applies to Iran is the disguised employment factor within the agricultural sector. This is significant as the agricultural sector remains by far the greatest employer in the economy, even in 1972. At the same time there was a considerable outflow from the agricultural sector into urban areas. In general these were young people in search of employment and a better life. In many cases these young people had not been actually involved in agricultural production, and possibly could be regarded as part of disguised employment, and hence not enumerated in the statistical records.

TABLE 6.3

OCCUPATIONAL PATTERN OF EMPLOYMENT
(%)

	1956	1966	1972
Professional, Technical and Related Workers	1.0	2.9	3.5
Administrative, Managerial and Clerical Workers	3.1	3.0	4.3
Sales Workers	5.8	7.1	8.5
Service Workers	7.7	7.2	6.3
Agricultural Workers	55.6	47.1	48.5
Industrial Production Workers	22.6	29.0	28.7
Workers not elsewhere classified	3.6	3.7	0.2
Total	100.0	100.0	100.0

SOURCE F. Aminzadeh: Iran: Past, Present and Future: 'Human Resources Development: Problems and Prospects'

As far as national savings are concerned in Iran, it was very low during the 1955-77 period. In spite of the increase in oil revenue as well as in the income of the upper classes, there was no great increase in savings as expected. In most cases people in the higher income groups tended to invest their savings abroad rather than in the domestic economy. Savings were therefore a very minor source of development finance. Savings were non-existent within the low-income groups. Lewis describes this trend as 'What is lacking in most of these countries is not the means but the will'. [7] This implies that if the government was willing to, it could raise the rates of savings in order to enhance economic development. This increase would however require major economic, political and social changes but the Iranian government was unwilling to undertake these changes. This is perhaps the best indicator of a lack of a serious will to promote rapid

economic development. Consequently little progress was made as far as creating employment opportunities for most of Iran's population was concerned. Having not succeeded in creating employment in the economy how effective was the government in improving the distribution of income, through the expenditure of oil revenue in the domestic economy? This will be examined in the next section.

6.4 INCOME DISTRIBUTION

One of the most disputed topics surrounding the rapid rates of growth achieved by the oil countries, such as Iran, has involved changes in income distribution. However, reliable data for historical comparisons of the distribution of income are one of the most difficult to obtain for most countries, in particular, developing countries. In spite of this difficulty several obvious trends have been detected in the distribution of income.

Table 6.4 shows that between the period 1959-73 the inequality in the distribution of income worsened. In 1959 the share of the top 20 per cent was 51.8 per cent, the share of the middle 20 per cent was 27.5 per cent and the share of the bottom 20 per cent was 13.9 per cent. By 1971 these figures were 55.5 per cent, 25.5 per cent and 11.7 per cent respectively. These figures illustrate a clear increase in the inequality of the distribution of income. However, during the 1971-73 period there was a tendency for the inequality of household expenditure (and therefore income distribution) to stabilise or even fall slightly. Figures 6.2, 6.3 and 6.4 show how these above stated figures have been translated into a Lorenz-curve which is often used in the calculation of measures of inequality. The increased inequality in the distribution of income in Iran during the 1959-73 period is clearly illustrated in these figures. The Lorenz curve

1959

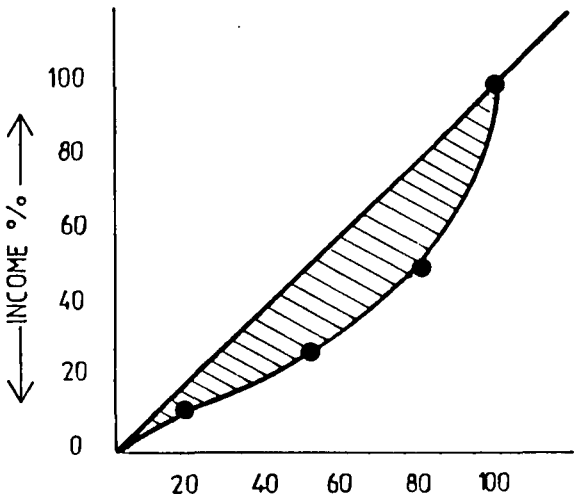


FIG 6.2

1971

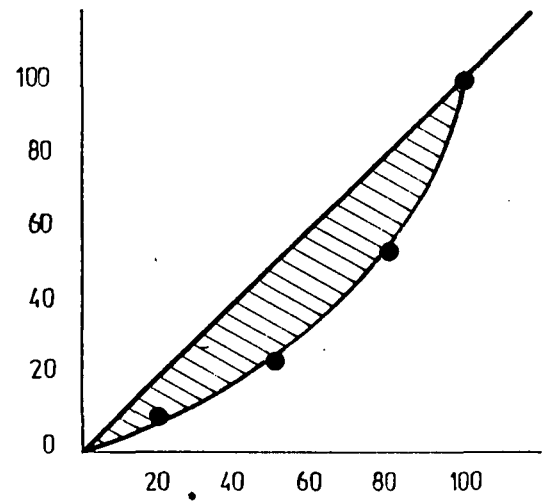


FIG 6.3

1973

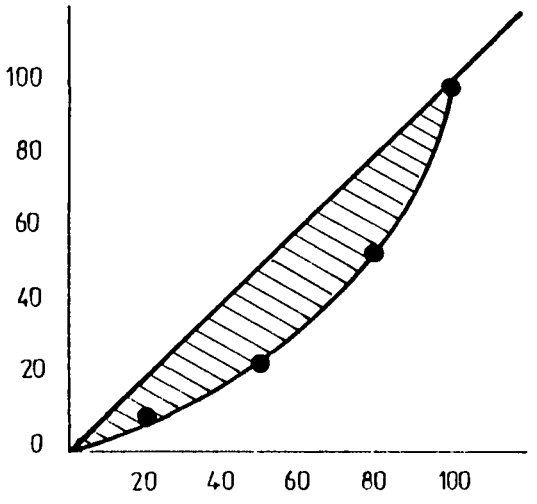


FIG 6.4

INCOME RECIPIENTS %

moves further away from the 45° line (which indicates an absolute equality) showing further inequality. The gini-coefficient as stated in Table 6.4 is the shaded area between the observed Lorenz curve and the line of absolute equality as a proportion of the total area under the line of absolute equality. A gini-coefficient of 0.4552 in 1959 indicates a fairly unequal distribution and by 1971 the coefficient had incresed to 0.5051 and although the coefficient fell again to 0.4946, Table 6.4 shows that there is considerable inequality which is on the increase.

TABLE 6.4

MEASURES OF INEQUALITY OF EXPENDITURE IN URBAN AREAS, 1959-73
(%)

Year	Gini coefficient	Share of top 20%	Share of middle 20%	Share of bottom 20%
1959	0.4552	51.79	27.54	13.90
1969	0.4710	52.91	26.96	12.99
1970	0.4849	54.30	26.05	12.71
1971	0.5051	55.48	25.49	11.65
1972	0.4916	55.33	26.29	11.88
1973	0.4946	55.56	26.06	11.96

SOURCE Compiled from Bank Markazi, Iran, Annual Survey of Household Expenditures (Tehran: Bank Markazi, Iran, 1959, 1969, 1970, 1971, 1972, 1973)

What now remains to be considered is what the possible reasons are for this increase in inequality within urban areas. Simultaneously, income distribution in the rural areas will be considered. Table 6.5 shows family incomes in urban areas according to the various average income groups and by comparison Table 6.6 shows family incomes in rural areas. What is interesting here is that in 1959, 61 per cent of the urban population belonged to annual income groups of up to Rials 50,000. This trend changed to 39.9 per cent by

1967-68 and it was estimated to be 26.5 per cent by 1975-76. Data is not available to confirm whether this figure is correct but if one considers the great influx of income earners into the urban areas from the rural sector in the 1970-77 period this decrease in income earners under Rials 50,000 is unlikely. Most of the migrants from rural areas were the young and in the majority of cases unskilled. When starting off in the urban areas, they were therefore unlikely to earn an income greater than Rials 50,000. Hence the estimated figure of 26.5 per cent is likely to have been slightly higher in the 1975-76 period.

TABLE 6.5

FAMILY INCOMES
DIVISION OF URBAN FAMILIES ON THE BASIS OF VARIOUS AVERAGE INCOME GROUPS

Annual income groups (urban areas, rials)	% 1959-60	1967-68	1975-76*
Up to 30,000	35.6	19.9	2.5
30,000 to 40,000	14.1	10.7	9.0
40,000 to 50,000	11.3	9.3	15.0
50,000 to 75,000	16.2	19.2	26.0
75,000 to 100,000	7.8	13.8	16.5
100,000 to 150,000	6.9	12.5	15.0
Over 150,000	8.1	14.6	16.0
Total	100.0	100.0	100.0

* Estimated

SOURCE Tehran Economist Magazine (1959-60 and 1967-68)

TABLE 6.6

FAMILY INCOME IN RURAL AREAS

Annual income groups (rials)	% 1970-71	1971-72	1975-76*
Less than 60,000	76.6	68.2	60.0
Between 60,000 and 120,000	18.1	24.3	31.5
Over 120,000	5.3	7.5	8.5
TOTAL	100.0	100.0	100.0

* Estimated

SOURCE Central Bank of Iran, Annual Reports

As far as the rural sector is concerned 76.6 per cent of families had an income of less than Rials 60,000 in 1970-71 and it was estimated that by 1975-76 60 per cent of families in the rural sector had an income of less than Rials 60,000. These figures show that low income families are in a majority within the rural sector whilst within the urban sector there was an increase in the middle income classes. There is also a strong indication in the above data that the inequality in the distribution of income within the urban sector is greater than within the rural sector where income is more evenly distributed within the lower income spectrum. In the urban sector the rich have become richer and although the poor are benefiting from economic growth, the wealthier class is becoming wealthier at a much faster rate.

These differences in the distribution of income can be partially explained by wage differentials within the Iranian economy. Detailed information about wage rates in Iran is very difficult to obtain and even where information did exist the government rarely published any of it. The Iranian regime and its spokesmen claimed that wages had

increased enormously since 1974. An example of these exaggerated claims is when the Economic Councellor of the Iranian Embassy in London claimed in 1977 that 'workers' earnings in Iran had risen by 600 per cent in the past three years. [8] The annual publication Iran Almanac is less ambitious, as Table 6.7 shows, claiming that in the six year period 1970-76 the annual wages in the Tehran area increased by about 275 per cent, 175 per cent, and 120 per cent for manual, semi-skilled and skilled workers respectively. Although these increases imply that wage differentials between the manual, semi-skilled and skilled workers have been reduced, one should bear in mind the enormous gap that existed between them. The increase in wages of manual workers was insufficient to close this gap to any extent. Considerable wage differentials still existed although the rate of increase in wages of supervisors and department heads were 29 per cent and 26 per cent respectively. The shortage of skilled workers meant that wages were pushed up and this contributed to an even greater gap between the unsksilled and the skilled and department heads. The cash income of Iranian workers has undoubtedly increased considerably since 1974 but whether real incomes have increased is a different matter since wage increases have constantly been eroded by inflation. At best it is assumed that real incomes have increased only slightly.

Stating wage figures without giving any indication of the cost of living is not of much use. The cost of living in Tehran, where the above wage figures were taken, was probably higher in the 1971-77 period than in London. Food prices were roughly the same as in Britain but were constantly being raised as a result of severe shortages and rial depreciation. Rents in Tehran were high due to the rise in population and property speculation brought about an enormous

increase in rents. Many urban families are reported to have been spending 60-70 per cent of their income on rent.

TABLE 6.7

WAGES OF WORKERS AND EMPLOYEES IN THE INDUSTRIES AND SERVICES IN 1970 AND 1976 AT TEHRAN, BASED ON DIFFERENT LEVELS OF SKILLS AS WORKED OUT BY THE PLAN ORGANISATION

	Wages per annum (US$)		
	1970	1976	% change
Non-skilled	312 - 437	1,248 - 1,560	275
Semi-skilled	437 - 811	1,560 - 1,872	175
Skilled	842 - 1,435	1,872 - 3,120	120
Mechanics	1,026 - 1,927	3,240 - 4,200	152
Laboratory analysis	1,309 - 1,505	3,240 - 4,200	164
Supervisors	3,168 - 4,752	4,200 - 6,000	29
Department heads	6,336 - 7,920	7,800 - 10,200	26

SOURCE Iran Almanac and Book of Facts, 1976, 15th Ed. Echo of Iran

Since data is not available for the rural areas it is not possible to compare wages in the two areas. However, one can assume that although the cost of living in the rural areas is less than in the urban sector it is unlikely that those living in the rural sector were better off. It is most likely that wages in the agricultural sector were lower than in the urban sector and were stagnant during the 1970s.

Finally, it can be said that the standards of living of a section of the working class did show some improvements over the 1971-77 period. As well as that, the government's subsidy policies, however shortsighted in overall economic terms, have prevented food prices from rising as fast as they would otherwise have done. Still most wage earners suffered from increasing costs in housing and other services and the gap between the unskilled workers and the better paid

has widened even further. These factors contributed to a wave of strikes in the mid-1970s and the wider outburst of discontent in 1978 which eventually led to the revolution in 1979.

To conclude this section it should be stated that although per capita income increased from $192 in 1959 to $717 by 1974 the distribution of income worsened during the same period. This indicates that theoretically increased oil revenue benefited the Iranian economy whilst in practice, although improvements were made, the gap between the rich and the poor widened even further after the oil revenue explosion of 1974.

6.5 REGIONAL DISPARITIES

There were considerable regional differences in all the before-mentioned aspects - in terms of employment opportunities, incomes and wages as well as in terms of linkages. As with other areas of the economy there is a lack of reliable data to give a historical picture of the development of these regional differences. Table 6.8 gives some indication of what the regional differences were in 1971 in terms of the decile distribution of household expenditure.

TABLE 6.8

DECILE DISTRIBUTION OF HOUSEHOLD EXPENDITURES, 1971
(%)

Decile (lowest to highest)	Urban areas	Rural areas	Total
1	2.17	2.79	1.96
2	3.56	3.82	3.51
3	4.56	5.04	4.37
4	5.96	5.90	5.14
5	6.66	6.98	6.24
6	7.67	8.14	8.39
7	9.35	9.56	8.51
8	11.74	12.10	11.88
9	16.21	14.48	15.80
10	32.12	31.19	34.20

SOURCE Compiled from Statistical Centre of Iran, Survey of Household Expenditures (Tehran: Plan and Budget Organisation, 1973)

The table shows that household expenditures are more unequally distributed in urban areas. That is, the bottom 20 per cent of urban households in 1971 was 5.7 per cent, whilst it was 6.6 per cent in rural areas. Simultaneously, the share of the top 20 per cent of households in urban areas was 48.3 per cent while the same share in rural areas was 45.7 per cent. The ratio of urban to rural expenditure, government development expenditures as well as the overall educational attainment of household is said to have an important influence upon other distribution of income in Iran. It follows that a policy which puts emphasis on decreasing the gap between the rich and poor regions through balanced regional development expenditures is one likely way to reduce income inequalities in Iran. Further measures such as setting up an educational programme with a wide regional coverage are likely to lead to an an improved distribution of income. Income inequality in urban areas could also be decreased by creating relatively well paid jobs for the unskilled and semi-skilled workers in small urban centres. However, even though some attempts may have been made to carry some of these measures out they clearly did not succeed in reducing the income distribution inequality on a regional basis.

Only a few years ago, rural-urban migration was regarded as beneficial to a country's development. Internal migration was believed to be a natural progression where surplus labour was gradually withdrawn from the rural sector to provide the required manpower for urban industrial growth. This process was thought of as socially beneficial since human resources were being moved away from areas where their social marginal productivity was often zero to areas where this marginal product was not only believed to be positive but also rapidly growing due to capital accumulation and technological progress.

This view of regarding rural-urban migration as beneficial is no longer favoured by economists. In the 1970s rural-urban migration became a major contributing factor to urban surplus labour. It was a force which aggravated the already serious urban unemployment problem that had been caused by growing economic and structural imbalances between urban and rural areas. It can therefore be said that migration is both a sympton of, and a contributing factor to, the underdevelopment of the Iranian economy, as is the case in most Third World countries.

To go even further into the discussion of rural-urban migration in Iran lets look at Todaro's model. His model aimed at understanding the causes and determinands of rural-urban migration and the relationship between migration and relative economic opportunities in urban and rural areas. This model has been named as the 'expected income' model of rural-urban migration. Todaro's model can be seen as an extension of Lewis' model. In Lewis' model people migrated from the countryside to the city in response to assured urban employment, and without a real wage differential. However, in Todaro's model these two paramaters became variables. Both the (estimated) real wage on income differential as well as the (estimated) probability of finding a job determine the individual's migration decision. Todaro's model does seem to apply to migration in Iran as far as providing the reasons for the increasing rural-urban migration. People's expectations were high in that they moved to the urban centres because they believed that their future would be secure and that they would be better off. There was a considerable proportion of reasonably educated young people that dominated the migrant stream. They tended to swell the growth of urban labour supply and at the same time depleted the rural areas of valuable human capital. As far as

Todaro's model is concerned it has not been possible to test whether the migrants 'expectations' have been met. The model assumed that all the migrants will find a suitable job in the 'formal' sector whilst, as stated earlier in this chapter, a vast number of these migrants obtain employment within the 'informal' sector. [9] How far Todaro's model can take this trend into account can be of some debate. The model would have to either take into account in its framework the 'formal' sector alone or include the 'informal' sector. However, in the latter case testing is virtually impossible because counting those with 'informal' jobs would be an enormous task and in many cases 'jobs' in these occupations may not be full time or entail any cash transactions but rather payment in kind.

Having discussed the migration aspect of rural-urban differentials a few points should be made on the regional geographic dimension. During the 1955-57 period the Shah aimed at centralising the economic system. The large industries were set up in very few provinces and as Table 6.9 shows the largest growth pole was Tehran. Other main areas were Isfahan, Eastern Azarbaijan (Tabriz) and Khuzistan, the oil producing region. The question 'what the advantages and disadvantages were in locating the industries in these areas' can be raised. A common criterion in locating industry is placing them on coastal sites to enable easy transport. However, neither Tehran nor any of the above-mentioned regions are located on coastal sites. Therefore the most likely criterion used in the location of industry in Iran was locating them close to the market. These industries were mostly market-orientated. As far as Tehran is concerned the distribution of income was greater than in any other regions hence most industries were located there. The number of workers per plant was the highest in Tehran where the majority of the

industrial labour force was based. These results clearly illustrate why there was a tendency for the influx of workers from the rural areas who were attracted to these growth poles.

TABLE 6.9

DISTRIBUTION OF INDUSTRIES IN DIFFERENT PROVINCES

Province	1 Indstrial units		2 Population units (millions)	
Tehran	1,698	(48.7%)	6.79	(20.9%)
Isfahan	272	(7.8%)	1.98	(6.1%)
Eastern Azarbaijan	239	(6.9%)	3.17	(9.6%)
Khuzestan	230	(6.6%)	2.11	(6.5%)
Gilan	198	(5.6%)	1.57	(4.8%)
Khorasan	185	(5.3%)	2.96	(9.1%)
Mazandaran	170	(4.9%)	2.52	(7.6%)
Fars	105	(3.0%)	1.97	(6.1%)
Yazd	69	(2.0%)	0.31	(1.0%)
Western Azarbaijan	61	(1.8%)	1.37	(4.2%)
Kermanshahan	49	(1.4%)	1.02	(3.2%)
Kerman	44	(1.3%)	1.06	(3.3%)
Sistan and Baluchestan	43	(1.2%)	0.56	(1.7%)
Hamadan	41	(1.2%)	1.04	(3.2%)
Lurestan	42	(1.2%)	0.97	(3.0%)
Kurdestan	12	(0.4%)	0.73	(2.3%)
All others	28	(0.7%)	2.37	(7.3%)
Total	3,483	(100%)	32.5	(100%)

SOURCES

1 Number of industrial units employing more than ten people (figures from 1973-74 Industrial Census)

2 Population of province figures 1973-74 from Statistical Office of Iran

The great concentration of the type of industries set up in these few centres brought about external diseconomies such as that of congestion and pollution. These industries did not provide any spin-off economies as they relied mostly on imported materials. However, although industries were concentrated in urban areas, out of 33.6 million population in 1976, 15.7 million were living in urban

areas whilst 17.9 million in the rural areas. This emphasises the importance of developing the rural areas which during the 1955-77 period were more or less neglected.

6.6 CONCLUSION

In the development of a country like Iran that has strong dualistic conditions, strong likages between the two sectors, the modern sector and the traditional sector, are necessary. But, as the above analysis has shown, these linkages were non-existent within the Iranian economy. Even linkages within each sector were minimal apart from a relatively important financial link between the oil industry and other modern types of industries set up. If it was not for the oil revenue the modern industries would not have existed at all. The reason is that the flow of resources from the domestic economy into the modern sector was very weak during the 1955-77 period.

The importation of intermediate goods increased rapidly during the period illustrating that the newly-established industries were not suitable for the economy. Although these types of industries may have been suitable for Western economies, the Iranian economy was underdeveloped, in particular its infrastructure. Also it had been hoped that technological expansion would take place with the setting up of these industries, but that was not to be. Capital and technology were imported and therefore its benefits did not spread to the rest of the economy.

The growth of the Iranian economy did not lead to increased job opportunities. Because of the neglect of the agricultural sector, labour flowed into urban centres in search of work and better opportunities. But not everyone found what they had hoped for in the

cities. Due to a mismatch of skills there was a considerable increase in the level of unemployment. Many of the unemployed drifted into the 'informal' sector or went back into traditional employment. As far as the modern sector was concerned there was a shortage of skilled labour and this pushed up wage rates that resulted in an even greater gap in the income of manual workers and the skilled. This shortage indicates strongly that the new industries did not suit the Iranian economy. The majority of the workforce remained in the traditional sector, in particular, agriculture.

The inequality in the distribution of income worsened over the 1959-73 period. The majority of people living in the rural sector earned below Rials 60,000 whilst there was a decrease in this income group in urban areas during the same period. This is an indication of the inequality between the two sectors, the poor did benefit in the urban sector but the rich became richer at a much greater rate, hence widening the gap even further.

Information on wage differentials between regions was unobtainable but data on wages paid in Tehran gave some indication of this. The lower earner groups saw a considerable increase in their wages in percentage terms. However, although the higher wage groups saw less increase during the same period, an enormous gap still existed between them. No wage rates were available for the agricultural sector but it is likely that wages were very low there and better paid work was believed to be one of the factors determining rural-urban migration. Looking at wage rates in isolation does not give any indication of the real increases and having briefly examined the cost of living and the level of increase in wages, it was clear that the real increase was only minimal.

Tehran was obviously the main growth centre with 48.7 per cent of total industrial units based there and it had the greatest number of workers per unit although the large industries did not provide any significant employment. The majority of workers, even in Tehran, worked in smaller workshops.

The influx of workers from rural areas was believed to be beneficial by economists but they soon realised that this influx led to an increasing problem of urban unemployment. The construction industry could not keep up with the demand for housing and rents were pushed up. Other solutions had to be found.

Finally, it can be said that although considerable economic growth took place during the 1955-77 period, the economic development of the country in the same period was not as significant as expected. Successful development requires capital accumulation (to employ the labour) in industry, technological progress in industry (preferably labour-using) and increased farm productivity (whose absence would slow down industrial growth by raising real wages). Take-off into self-sustaining growth occurs when industrial demand for labour becomes so strong that landlords in the rural sector must bid for labour and pay labour's marginal product rather than the old institutional wage.

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CHAPTER SEVEN

CONCLUSION

In this thesis the development of the Iranian economy has been discussed with particular emphasis on the implications of oil revenue allocation for the major sectors of the economy.

During the 1953-77 period there was considerable growth in the Iranian economy. Oil revenue was of great significance for the economy and it enabled the government to pursue certain policies which otherwise would not have been possible. However, the question of whether the allocation of oil revenue was to the country's advantage in terms of enhancing its development can be answered on the basis of the analysis made in this thesis. The share of oil revenue in development finance in Iran increased from 59 per cent in 1963 to 80 per cent in 1972 which clearly illustrates the revenue's importance for the government in carrying out its ambitious industrialisation programme. However, what is of interest is that after the 1973 oil price increases the share of oil revenue allocated to development planning decreased.

Although the Shah maintained that he was going to transform Iran through rapid industrialisation into a major economic and military power before the country's oil reserves were exhausted, he may have been close in achieving the latter but the former lagged far behind. The reasons for not succeeding in making Iran a major economic power are many. It is quite obvious that misallocation of resources did take place. To illustrate this point better one should consider the amount of oil produced during the 1973-77 period when oil prices were at their peak as compared with oil production in the 1955-69 period.

In the five year period 1973-77, 10,500 million barrels of oil were produced as compared with production of 8,355.3 million barrels in the 15 year period 1955-69. Oil revenue increased from Rials 556.3 billion to Rials 2,951.6 billion respectively. This vast increase in oil revenue removed completely the financial constraints most developing countries have. But why has Iran during the period under discussion not leaped far ahead of other develping countries that have not been in such an advantageous financial position? Countries like Egypt and Turkey have been able to develop substantial industrial bases for themselves without the financial advantages that Iran had. This may be due to the misallocation of resources in Iran.

The problem that Iran was faced with was that its infrastructure was unable to cope with the sudden influx of revenue that occurred as a result of increased oil prices in 1973. Since the Shah decided to take advantage of the oil price rise, production increased considerably during the 1973-77 period. Simultaneously, this policy to develop the economy as soon as possible brought exhaustion of oil reserves closer. Iran required this increase in revenue in order to eliminate the budget deficit that existed in the 1972-73 period and the greatest need for increased oil revenue was for the development of the country. However, since the development that actually took place was on a relatively modest scale compared with the available oil revenue the great increase in oil revenue over the 1973-77 period was much more than was actually needed. Production could have been at a substantially lower level, and Iran could still have been able to maintain a balanced budget.

During the 1953-77 period Iran's role as an oil producer in the Middle East increased steadily. Iran was the main advocate of the oil

price increases in 1973 which were regarded as a necessary step to increase OPEC's members oil revenue and power. Oil companies feared that these increases would eventually curtail the demand for oil. By 1976 Iran had difficulties in marketing its oil. Demand was indeed curtailed as a result of these price increases, although elasticity estimates did not indicate this would happen. The price elasticity of demand for Iran's oil was estimated in order to analyse how responsive the demand for oil was to price. The results showed that for the 1957-67 period fluctuations in prices only explained 12 per cent of fluctuations in demand. For the 1967-77 period the results pointed to different conclusions as they show that demand rose irrespective of increased prices. An estimated price elasticity for the whole of the 1957-77 period showed similar results to the latter period. Post 1974 demand was curtailed largely through negative income effects rather than because of the price increases, although the latter may have caused a lagged demand response which only manifested itself after the end of the period under consideration here.

Oil revenue was allocated into areas believed to promote economic growth and prosperity. But how successful was the Shah in doing this? Over the 1953-77 period there was increasing emphasis placed on investment expenditure rather than current spending and this was expected to raise the rate of economic growth. However, it is very difficult to measure how effective investment was in promoting growth. Oil output accounted for an increasing proportion of GNP and it was the value of the oil output itself rather than the revenue from oil that increased the growth rate. Iran was able to borrow a great deal from the outside world using its oil reserves as collateral. Many western countries were willing to "do business" with Iran as it was believed to be a reliable partner.

The government's marginal propensity to consume in relation to oil revenue was estimated. The results showed that as oil revenue increased, government consumption increased by over half as much which is considerable, but not on as great a scale as expected. Private consumption grew even faster. However, the greatest increase was in investment. The government's marginal propensity to invest was also estimated and the results showed that when oil revenue increased the government's investment expenditure increased by 70 per cent amount. The relationship between oil revenue and investment was even stronger when taking into account the fact that investments take time to implement. In this case oil revenue was lagged one period.

Government spending made a significant contribution to inflation. Therefore Iran's inflation was not imported as the state often asserted, but self-inflicted. The reason was the country's buoyant demand over the period. The country's defence expenditure was the largest item in the budget. This spending produced no goods to satisfy the market place demand of consumers while at the same time it removed productive capacity from the civilian economy. As a consequence of these factors the country's level of inflation was higher than that of other major oil exporters. In addition Iran became a more open economy than the other large Middle Eastern states, with a much higher level of imports. The estimated marginal propensity to import indicated that there existed a considerable import leakage in the system but not as great as might be expected taking into account Iran's import requirements in the 1970s. This relationship was lagged one period.

The increased need for imports during the 1970s can be explained by looking at the way in which oil revenue was spent. As stated

earlier the government firstly put great emphasis on developing the country's physical infrastructure and secondly its major investment was in capital-intensive heavy industries. However, oil revenue was not directly used in funding these investments. The Iranian government set up several financial institutions during the 1953-77 period. The bulk of the industrial investments were undertaken with the assistance of these financial institutitions. Private investment was only minimal in these capital-intensive industries. The factor that motivated the development of Iranian industry was the neo-classical explanation of easy finance rather than the level of demand in the economy as suggested by Keynesians. Demand was stimulated by oil revenues but development finance was channelled into heavy industries such as metal (steel), chemicals and petrochemicals, mechanical industries and mining rather than consumer goods industries. The level of oil revenue had a significant impact on the level of investment in industry especially after the oil price increases. Iran was heavily dependent on the importation of machinery as the domestic market was unable to produce the required machinery. The car assembly industry is a good example.

The efficiency of these investments was very low. Iran had an abundant supply of labour but was developing highly capital-intensive industries that were unable to employ any significant number of people. The domestic economy was not even able to supply these industries with material and equipment. There was a large increase in investment in these industries in the 1973-74 period but investments made in that period did not show any immediate rate of return. The analysis made in this thesis shows industry to be relatively inefficient. The main form of expansion that took place within the industrial sector was in capital-intensive import-substitution

industries but the small labour-intensive units remained dominant in employment terms. The major industrial expansion took place in the artisanal sector despite government discrimatory policies against the sector. This growth despite the government's policies indicates the vitality of the sector to the Iranian economy while in constrast the modern sector did not give a very good performance.

Protection was given to the newly-established modern industries. This allowed domestic industry to establish itself without any outside competition. The monopoly element increased as these tariffs became more of a permanent feature than a temporary measure. However, this protection did have some positive effects on industry although Iranian manufactured goods tended to be more expensive than the average world price. The reasons for these high prices are due to lack of competitive pressure, the low level of value added, inappropriate plant size (too large) and inadequate project planning. Inefficiency in this sense represents a significant and permanent loss of resources for the Iranian nation and it most definitely reduced the possibility of increasing exports to meet foreign exchange requirements when oil revenue eventually decline. This was the main weakness of Iranian industry.

In spite of these inefficiencies and inadequacies, Iranian industry grew significantly over the 1960-74 period and with the impact of increased oil revenue in 1974 the growth rate was even greater. Nevertheless some of the output increases were at the expense of the traditional industries. As not all the output of the latter was enumerated, the extent of net output increase may be exaggerated in the official statistics. The government's emphasis on a Western type of industry gave poor long-term results. Small crafts

and industries that contributed to production and employment were not developed which led to an increasing import bill. The Iranian economy is more likely to have benefited if emphasis had been placed on developing existing industries and establishing lighter consumer orientated labour-intensive plants to create employment and meet domestic demand requirements. At the same time they would have been able to save foreign exchange.

The one important sector that was totally neglected was the agricultural sector. The sector remains the least developed sector of the economy. Yet it is one of the country's most important sectors as about half of the country's 35 million population live in the countryside. The land reforms that were carried out by the Shah did not bring about the changes that had been hoped for. The aim was to decrease the population to 2 million in rural areas by 1980. There was a considerable influx of labour into urban areas from rural areas. This however did not decrease the population of the rural areas to any extent and it created the problem of an excess supply of labour in urban areas. Iran's cities were unable to handle this sudden increase in their population. Various social problems arose from this. The little investment that was made in the agricultural sector was handled in a similar manner to that in industry. Large commercial farms were set up and the intention was to mechanise agriculture in order to increase production. However, the large agribusinesses were not effective due to bad planning and the lack of skills in organising and running these modern establishments. The local farmers did not co-operate with the government and without their support there was no way of succeeding.

As with industry the government set up some financial

institutions to enable the development of the sector but their effectiveness in contributing to agricultural development was only minimal. Finance was not provided to the smaller farmers who made up the majority of the rural population. Private investors were unwilling to invest in the sector which partly explained the lack of investment in this important sector. Oil revenues could have been used on a much larger scale in the development of the sector than they actually were. This would have simultaneously reduced the large import bill for agricultural products. The fact that investment in agriculture fell in the 1973-74 period whilst there was an explosion in the government's oil revenues shows the attitude the government had towards the sector, that of neglect. There was insufficient investment in the sector to enable it to develop sufficiently to at least meet its domestic demand requirements. Also, the actual investment that was made was mostly to set up irrigation dams but these were very large and costly and mostly benefited the large commercial farms. Smaller irrigation projects are likely to have benefited more people.

Agricultural production increased by at most 2.5-3 per cent per annum from the early 1960s which was less than the rate of increase in population of 3 per cent and well below the combined rate produced by the increase in population and income. This is a strong indication of how important the need to develop the sector was. As compared with other sectors of the economy the agricultural sector was the least productive sector which is upsetting when taking into account that Iran, at one stage, was largely an agricltural economy. At the same time the sector provided during the 1977-78 period the second largest level of employment, after services, in the economy. What was actually needed was the enhancement of labour-intensive techniques in

the sector. In other words utilise the existing skills instead of applying techniques that required technical skills which were not available in Iran.

Iran, with its strong dualistic conditions, has not succeeded in developing for the benefit of all but rather its abundant supply of oil has worsened the gap between the modern sector and the traditional sector. What was needed in Iran was to adopt policies whereby labour-intensive methods were put into use rather than a Western-style development. What is clear is that before Iran had the oil revenue it was an under-developed country with all the conditions that go with that and the attempt to bring it on a level with a Western type of economy was taken in a too large a step. The country did not have the infrastructure to cope with all the Western style of demands that were created in the process. Although Iran may have become slightly better off than previously, the misallocation of its resources meant that an opportunity was lost to bring about greater prosperity for all, over a longer period of time. The shock was too much for a nation with a very strong cultural and religious background. This misallocation is likely to have contributed a great deal to the revolution that took place in 1979. Many Iranians believed that they were being led in the wrong direction and that their country was being used for the benefit of a few. Instead if the agricultural sector had been better catered for and its labour-intensive industries had been developed, Iran may have been able to take a greater step forward towards development.

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