

Two general notes:

1. We converted the Persian calendar to the Gregorian system throughout the thesis for the convenience of Western readers by adding 621 to the relevant Persian A.H. year. In our conversion, each Gregorian year stands for the twelve month period beginning from 21st March to accord with the start of the Persian year; for example, year 1359 A.H. shown as 1980 A.D. corresponds to 21st March 1980 to 20th March 1981.

2. In the bibliography, all Farsi references are reported in their original form by using Latin alphabet, supplemented by the translation of the title and the source. In the text, we abbreviated the name of the source in the original language (rendered in Latin alphabet), but the titles are in most cases translated for convenience of the reader. As an example, when we use B.M.I. (Bank Markazi Iran which is the Central Bank of Iran) An. Rep., it implies that the source is in Farsi; but C.B. (the Central Bank of Iran) An. Rep. indicates that the source is in English.

A Critique of Development Policies Based on Oil Revenues
in Recent Years in Iran

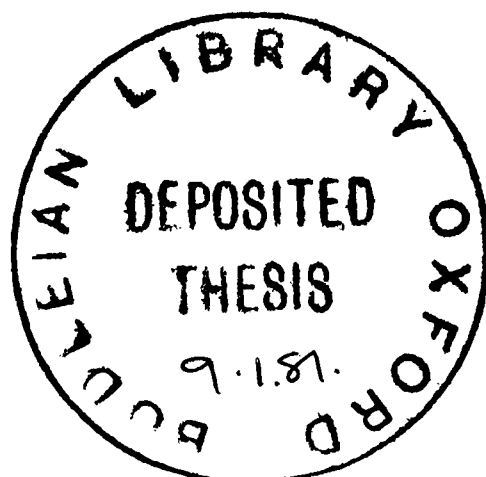
A thesis submitted to the
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by

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To Shahnaz

for her

love and patient support

Abstract

A Critique of Development Policies Based on Oil Revenues in Recent Years in Iran

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The thesis deals with the opportunities and problems created for an oil economy by the price rise of 1973 with a special reference to Iran, and it is, as far as the author is aware, the first study to analyse the socio-economic performance of the Shah's regime in the subsequent period. We studied the Government's policies in the use of oil revenues, stressing the failure to pursue productive and social goals which would have been feasible. The data employed are based mainly on the Government budget, supplemented by figures on trade, national income, prices, employment, etc. The study includes two conceptual chapters, and the rest is empirical. The conceptual chapters argue that the opportunities provided by oil cannot last for ever; an oil economy should gradually diversify output and exports 'out of' this exhaustible resource, specialisation in which involves risks. We envisage diversification in a novel sense, as a dynamic concept interrelated with oil price and depletion policies, as a part of general development strategy. The economy may first go 'into' oil to raise revenues with the intention of diversifying 'out of' it in the long run. The revenues should be spent on accelerating the growth of non-oil GDP, paying due attention to basic needs. Development is the ultimate aim, diversification is the result; it is also the means through which development takes place. Developing the Kalecki approach to explain problems of acceleration of growth in an oil economy, we hypothesise that while the OPEC agreement raises the means to diversification, its achievement is limited by i) various 'physical bottlenecks', and ii) institutional factors. Iran's experience shows that Kalecki over-stressed the role of imports in accelerating growth and combating inflation. Even where foreign exchange is ample, an increase in the rate of growth could nevertheless be limited by the physical capacity for imports, the shortage of skilled labour, the lack of infrastructure, and the ceiling on the rate of growth of 'supply determined' commodities, particularly non-tradeable inputs and agricultural goods. Moreover, a mixture of demand-pull and cost-push inflation may arise as a result of imbalances in both the commodity and labour markets. At the same time, given a strong exchange rate made possible by oil, inflation would reduce the competitiveness of non-oil exports in foreign markets. Outlining a socio-economic framework for Iran, we showed also that both the pace of development and the pattern of distribution of its benefits were adversely affected by Government policies. Oil made the role of the Government in the Iranian economy more decisive than in many socialist countries; but the objectives of the Government diverged from the aspirations of the masses. Its various policies exacerbated shortages and inflation, and they were also responsible for the slow growth of agriculture. In particular, a large diversion of public expenditures to 'non-productive' uses, together with a rapid expansion of private consumption and investment in housing, limited the supply of physical resources to productive sectors. Further, Government policies biased the distribution of social services and private consumption heavily in favour of a minority 'governmental class'; and 'despotism' was intensified through militarism. The bias against rural areas too was pronounced. The study indicates that the factorial distribution of income changed in favour of profit earners owing to the increase in the 'degree of monopoly', as hypothesised by Kalecki and Riach. The results of Government policies were fast depletion of oil, yet disappearance of the surplus in the balance of payments. Economic failure accompanied by social frustration led to the collapse of the regime, leaving the economy more than ever dependent on oil and imports of necessities.

One conclusion is that the new regime would be well advised to aim at a strategy of slower economic growth associated with a slower rate of depletion; this allows more time to remove the structural bottlenecks.

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Abbreviations

An. Rep.	Annual Report.
B.M.I.	Bank Markazi Iran (The Central Bank of Iran).
C.B.	The Central Bank of Iran.
C.P.I.	Consumer Price Index.
D.P.C.G.	Domestically Produced and Consumed Goods.
F.T.	Financial Times.
I.F.S.	International Financial Statistics.
M.A.	Ministry of Agriculture.
M.A.I.	Markaze Amare Iran (the Statistical Centre of Iran).
M.I.M.	Ministry of Industry and Mining.
N.I.O.C.	National Iranian Oil Company.
O.E.C.D.	Organisation for Economic Co-operation and Development.
O.P.E.C.	Organisation of Petroleum Exporting Countries.
Salnamah	Statistical Year Book of the Statistical Centre of Iran.
Stat. Y.B.	Statistical Year Book.
W.P.I.	Wholesale Price Index.
W.P.I.M.	Wholesale Price Index of Imported Materials.
W.P.I.W.	Wholesale Price Index of Wheat.

Chapter 1

Introduction

1.1 The Issue

The world was shaken in 1978 by the Iranian revolution after it had been jolted in 1973 by the four-fold increase in the price¹ of crude oil. The price increase raised the aspirations of the Iranian people for a better living and a better future. The deposed Shah of Iran and his Government claimed to have dreamed of developing Iran, by using oil revenues, to become one of the five top industrial powers in the world. The country would, according to the Shah, reach such an era, referred to as the 'great civilisation'² (sic), in twenty years, i.e. within the time span of four development plans. The western industrial states became worried about the emergence of a potential competitor in the international market for industrial goods.

The government accelerated sharply the investment outlays as well as other expenditures, supposedly in line with that dream, soon after the price rise. In less than five years not only did the government fail in economic terms but the political system as a whole collapsed. Growth was halted, inflation accelerated, the balance of trade went into deficit, money was wasted, and the opportunity was lost. Besides, social discontent, caused by economic failure and frustration of the expectations and aspirations of the people, gathered momentum and turned into social upheaval and revolution. The post-revolutionary regime inherited reduced oil reserves, a heavily increased dependence on oil as a source of income and foreign exchange; it

1. Then the posted price was used as a reference price in international trade in oil. The posted price was an accounting price on the basis of which royalty payments and the share of the host government in profits was calculated. In 1974 that system was replaced by the government sale price. At any rate, by the price increase, we imply in this thesis, increase in oil revenues per barrel, and by oil we mean crude oil.

2. He even wrote a book under that title.

also took on an accentuated governmental role in the economy. The task ahead to develop the economy is consequently enormous and the role of the government is more crucial than ever.

The failure of the previous regime leads one to doubt the viability of the policies it undertook. What went wrong? What were the causes of the halt in growth and of the economic failure, which also led to political collapse,¹ despite the availability of immense oil revenues? What lessons can be learned from the experience of the past which could help decision making in the future?

Broadly speaking, the tasks of this thesis are to explain the advantages as well as disadvantages of trade in oil for long-run development;² and to shed some light on the questions outlined above. This chapter will provide some general introductory notes. Accordingly, we will briefly deal here with the following questions: What should have been done with the oil revenues; in other words, what have been, or should have been, the objectives of development; what has happened; why has it happened; and how could it be explained? Finally, how is the thesis to approach these questions?

1.2 The Objectives of Development and Diversification

The stated general objectives of development plans in Iran since 1962³, as understood from the text of the plans and from the government's official statements, have been as follows: to develop rapidly a national 'independent' economy⁴ which could meet the 'basic requirements' [needs] of 'the public';

-
1. We should mention that the collapse of the regime had some socio-political causes as well. We do not intend, however, to go into their explanation because of lack of space and the need of our particular field of study.
 2. The reader may consult pp. 28-29 for the essence of the argument.
 3. The Third, the Fourth and the Fifth Plan came into effect in 1962, 1967, and 1973, respectively.
 4. This term was used almost every day by the officials in the mass media.

and also to diversify out of oil.¹ The concepts of development, basic needs, independence, and diversification are vaguely used by the Iranian planners. For example, it seems that by independence they mean 'self-reliance',² though this concept is not clear either. Although the stated objectives might not have been identical to the genuine objectives of the government, it seems that they were so stated because they were thought to reflect the aspirations of the masses of the people. The meanings of those concepts, which are important to the analysis of this thesis, are also vague in the literature. Hence, they ought to be clarified. The concepts of diversification and self-reliance are particularly complicated. For this reason, we have allocated a separate chapter (3) to their detailed examination, limiting ourselves in this section to some general comments.

1.2.1 Development and basic needs

Development economists have not, as yet, agreed on the meaning and methods of measurement of economic development. 'Pure economists' take development to mean achieving merely a high level of per capita income regardless of the structure of output and the pattern of its distribution. Political economists and institutional economists give a wider meaning to development. Development is 'a movement upwards of the whole social system', as Gunnar Myrdal puts it.³ Similarly, it is 'creating the conditions for the realisation of human personality', as Dudley Seers believes.⁴ For the sake of argument of this thesis we prefer the definition suggested by Paul Streeten as follows: development is identifying basic needs and raising the level of living of the

1. See Outline of the 3rd plan, pp. 74 and 92; The 4th plan, pp. 34, 39, 53 and 59; and The 5th plan revised, A summary, pp. 6 and 23.

2. See ibid., p. 6.

3. Myrdal (1973), p. 7; see also Myrdal (1974), Chap. 10.

4. Seers (1972), pp. 21-23.

masses of the people.¹ His definition of course is quite close to the above mentioned ones. Moreover, it is simpler and clearer than the others. According to Streeten's definition, the beneficiaries of development are the masses of the people. Its objectives are: to identify and satisfy their basic needs and to raise the level of their well-being. The emphasis on people encourages us not to forget that the basic unit of concern is not some abstract entity as 'the nation' but individuals.

The emphasis on provision of basic needs will allow us to take all human needs into consideration. These include economic elements: job, nutrition, clothing and housing; social: education, health, equality in income, and equality of access to power; political: participation in decision making, and security; and even psychological factors: satisfaction with the socio-political and economic system. Although we regard other needs as important, we are mainly concerned, in this thesis, with economic and to some extent with social needs.

Note that we envisage needs as a dynamic concept. The basic needs of the masses change over time. For example, what are considered luxuries today may become necessities tomorrow. Consideration of the needs of people over time allows for improving their well-being. It implies that growth is a necessary condition of development, though not a sufficient one.

1.2.2 Diversification and self-reliance

We will give diversification a wide meaning and will employ it as a dynamic concept. Accordingly, commodity export diversification is a part

1. Streeten (1974), pp. 5-8.

of diversification of the production structure and both are the result of general economic development. In other words, diversification policies are concerned with general strategies for development. Diversification out of oil requires expansion of activities outside the oil sector, i.e. expansion of non-oil GDP, according to development priorities. In this sense, diversification does not necessarily mean solely export expansion; it could also take, e.g., the form of import substitution. Besides, expansion of non-oil GDP in turn requires provision of backing-up services. These consist of some socio-economic services: education, training, and one may include also health services, to the extent that these contribute to higher output and productivity, as well as other infra-structural services such as transport, public utilities and so on. Expansion of non-oil GDP and relevant backing-up services figure among the development objectives we outlined in the previous pages.

Oil enjoys a strong international market, but it is exhaustible. The primary objective of diversification is to develop an alternative for oil by the time of its exhaustion. However, in a direct link with those characteristics of oil we will give diversification a dynamic dimension. What we mean is that there is a conflict between long-run and short-run objectives. For some period of time the economy should go 'into' oil with the intention of going 'out of' it in the longer run. It goes into oil by increasing the shares of value of oil in both exports and GNP by raising the price of oil through collective actions of the exporting countries within OPEC.¹ Note that we regard cartelisation, i.e. OPEC agreement, as a means to increasing bargaining power and to development. To continue, the ratios of export earnings and exported volume in GNP and

1. Organisation of Petroleum Exporting Countries.

in exports are to decrease in the long run not merely because of gradual depletion of oil; more importantly because of growth in non-oil GDP (thus GNP).

To explain further, let X_o and X be the value of exports of oil and total exports, respectively. X_o/X and X_o/GNP then, will show the ratios of X_o to total value of X and GNP , respectively. The ways in which the degree of concentration of X_o ^{over} X (or GNP) can be reduced may be shown by two extreme examples: a) static, and b) dynamic. In a narrow static sense the numerators (X_o) in the above two fractions are replaced by some other commodities without an endeavour to expand the denominators. In this sense, to decrease commodity concentrations in exports, production and export of oil is contracted and the resources engaged in its production are transferred to another (other) export commodity(-ies). In a dynamic sense, the degree of concentration in X_o is first increased by raising the price; nevertheless it is reduced in the long-run by increasing the denominators of the aforementioned fractions.

Obviously, the price increase may involve some supply restriction; that is, the volume of exports might be below what these otherwise would have been. However, such restriction is different from supply contraction required by diversification in a narrow static sense.

While preparing for the time of exhaustion of oil is regarded as the primary objective of diversification, it should not necessarily be considered as the only objective. We will argue in Chapter 3 that diversification, in a wide sense, not only increases the ability to take risks related to concentration in oil, but also contributes to bargaining power in international trade relations, by increasing the flexibility of the

economy. The bargaining power so increased will help improve, or maintain, the terms of trade. This is true not only as regards trade in oil before the time of exhaustion but also trade in general whether before or after the exhaustion. The increase in gains from trade in turn can provide an impetus to further development. In short, diversification and development are interrelated; yet the key issue in the interrelation is development. Development is the end, and diversification is a means. So, indeed, is international trade in general.

There is also some relationship between diversification and self-reliance. By self-reliance we do not mean autarky or self-sufficiency; self-sufficiency is only a special case of self-reliance. At the risk of too much generalisation we may say that the aim of self-reliance is to benefit from international trade but to make an attempt, by securing bargaining power, to avoid having the economy subject to factors beyond the nation's control. We may look on self-reliance as an external objective of development with a view to maintaining greater freedom to pursue the internal development objectives outlined in the previous pages. While diversification contributes to self-reliance, it is not the only means. There are also other ways to 'insure' the economy against external risks related to trade in general, and oil in particular, as we will explain in Chapter 3. At this stage, we may mention that the ability of the economy to produce the basic needs - or the bulk of them - constitutes an important factor leading to self-reliance. To that extent provision of basic needs is in line with both the internal and the external objectives of development.

1.2.3 Choices open to an oil economy

Before we end this section, we may add that going 'into' oil might be given a wider significance. It could be taken as exploiting oil through an appropriate oil policy for development. Oil policy includes both price policy and depletion policy. The choices open to an oil economy are as follows. First of all, there is an option between using oil for consumption and for investment. This choice depends obviously on the government's rate of discount which is politically determined. Secondly, there are alternative ways of investment: oil in the ground; undertaking development projects; or investment abroad. Decision making on those policies is complicated; it depends on so many predictable and unpredictable economic as well as political factors. For example, the policies concerned are influenced by: future world demand and supply of energy and oil; the former in turn is related to growth of international economic activities, and the latter depends on discovery of new sources of oil and progress in technology; world inflation; economic policies of oil importing countries; oil policies and political interests of other OPEC countries; global politics; and internal politics and class structure. What is more, all those choices are closely interrelated. Price policy is related to depletion policy; both are related to the speed by which diversification can take place i.e. to the ability to invest domestically, and to the possibilities and problems of investment abroad; and the ability to invest domestically is itself negatively related to growth in consumption, as will be elaborated later on. Theoretically speaking, the government is to aim at an optimal, or we may say an appropriate path, to the best of its knowledge and information¹ allowing for all those policies within a single

1. Note the ex ante optimal policy may prove wrong ex post.

package. In this thesis we will be mainly concerned, due to lack of space, with development policies and problems of acceleration of non-oil GDP. However, in Chapter 3 we will consider briefly the relations between development policies and depletion policy and outline problems of investment abroad.

1.3 A Short Economic and Political History

The long-run process of economic development of Iran may be divided, for the purposes of this argument, into three stages: (i) subsistence economy; (ii) integration into the world economy, through concentration in primary products, at a low level of development; and (iii) a highly developed and diversified economy capable of taking opportunities in international trade.¹ Stages (i) and (ii) cover the past, and the third stage is concerned with the perception of the future. The first stage represents the period before the mid-nineteenth century. The second stage follows this date and leads to the present time. This stage in turn may be divided into two phases: before expansion of oil revenues around 1920; and the succeeding period. The latter period may also be sub-divided into 1921-50; 1950-54; 1954-59; 1959-62; 1962-70; 1971-73; and 1973-78 - as will be explained shortly. We are not concerned, in this thesis, with the first stage, but a few words about the first phase of the second stage, and the subsequent periods up to 1962, help us understand the events of recent years.

Events of 1973-78 are, generally speaking, no less than the intensification of the pattern of economic changes over 1962-73 which are in turn a continuation, more or less, of a similar trend since the beginning of

1. Based on D. Seers (1964) with modification. Note that those features represent the dominant characteristics of the economy at each stage.

integration into the world economy. What is more, the political situation also has changed hand in hand with, and to a great extent as a result of, economic changes. Briefly speaking, the dominant features of the pattern of socio-economic changes in the second stage are: growing importance of trade in the economy, first through concentration in agricultural products, and then through oil; mounting significance of the government in the economic scene, on the basis of trade taxes at the beginning and oil revenues later on. As we shall show those revenues contributed to the widening divergence between the government's preference and the national interest.

Mid-19th century - 1962

Iran lost its autonomy and was turned into a semi-colonial state following the military defeats in the wars with Russia, in 1828, and Britain in 1855-56. Western penetration, i.e. rivalry between Russia and Britain, two great powers of the time, for safeguarding their interests, including trade, stimulated the integration of Iran into the world economy. Commercial activities expanded, production of cash crops for exports were initiated, and local manufactures gradually decayed, due to the competition of imported items.¹ Expansion of trade contributed increasingly to the government revenues through expansion of import duties and taxes on exports. As a proportion of government revenues, customs revenues increased from an insignificant figure in the 1840's to about 15 per cent in 1888-1889 and to about 28 per cent in 1920.² Further, the government received some other revenues related to the opening of the economy such as revenues from granting 'concessions' to foreigners which started in 1882, and those earned from

1. For a survey of economic history of the period, see Nowshirvani (1975).

2. Based on *ibid.*, p. 35 and Chahardahomin Raporte Raeise Kole Maliē Iran, Dey, Bahman, Esfand 1304 [4th Quarterly Report of the Administrator General of the Finances of Iran 1925], pp. 13 and 15.

monopoly trading in some imported consumer goods after 1895.

Though oil was discovered in 1906 and exported in 1913, oil revenues had been insignificant before 1920.¹ In 1919 they constituted no more than 6.4 per cent of government revenues. Despite some expansion afterwards, particularly after the revision in the agreement with the Anglo-Iranian Oil Company (A.I.O.C.) in 1933, oil revenues were by no means as significant as customs revenues.² In 1925, oil revenues and customs revenues constituted about 16 per cent and over 38 per cent of the total government revenues respectively.³ Revenue from trade was raised rapidly in the 1930's by monopolising foreign trade as a whole and by increasing import taxes on such items as tea and sugar.

Reza Shah revitalised 'despotism' primarily on the basis of growing revenues from non-oil trade, following his coup d'état of 1921. None the less, oil revenues also made some noticeable contribution. Note that 'Oriental despotism' historically featured Iran and other Middle East countries. There are various views about the source of despotic power. The most famous among these views is that of Marx and Engels, which is later

developed by K.A. Wittfogel. According to Marx and Engels, the source of despotic power is the need for such public works as large scale irrigation systems and means of communication as well as protection against war.⁴ Wittfogel puts emphasis on the need for irrigation systems and makes mention of a 'hydraulic society'. A.K. Lambton regards the Tuyul and Iqta systems of land tenure, which prevailed until the late nineteenth century

1. The total revenues over 1913-18 were about £445,000. They reached £428,159 in 1919 and £755,675 in 1925 (based on ibid., 22nd Report, Table 12).

2. They reached about £1.8 m. in 1933 and £4 m. in 1940. Amuzegar and Fekerat (1973), p. 81, Table 2.1.

3. For 1926-27 the total customs revenues and revenues from monopolies and taxes on domestic trade is estimated about 80 percent of government revenues (see Nowshirvani, op. cit., p. 49).

4. See Marx, K. (1964), particularly pp. 32-35 and pp. 69-74; and Engels (1976). p. 189.

in Iran, as a source of despotic power. In those systems property rights in land are held by the state. The state can sell out the right to use the land to individuals in exchange for tax.¹ One may add that in such systems the means of production, land, was in the hands of the state; and the state did not depend on citizens for revenue.

Reza Shah embarked on some modernisation, and industrialisation through import-substitution in such items as weavings. None the less, during his rule and the following period up to 1950 the economy was further integrated into the world economy through oil revenues.²

Both before Reza Shah and during his reign, however, the interests of the government were very remote from those of the common masses. Over the former period, such divergence had twice led to social upheaval: the 'tobacco revolution' of 1890 and the constitutional revolution of 1905-7. Despite Reza Shah's modernisation policies the general public did not benefit noticeably. In fact, the widespread discontent with his regime supplied the seed of the social movement which later developed into the nationalistic fervour of 1950-53. The allies who occupied Iran in 1941 put Reza Shah into exile, for their own reasons, and his son Mohamed Reza took over the throne. Immediately after the war the movement gathered momentum under the leadership of Dr Mossadeq, the prominent nationalist.³ The oil industry was nationalised in 1951, but the British government, the main shareholder of A.I.O.C., reacted strongly by putting an embargo on oil exports from Iran. An oil economy lived without oil for about three

1. Lambton, A.K.S. (1953). For a similar view see Hindess, B. and Hirst, Q. (1975), pp. 193-201.

2. See Agah (1958) for the history of economic development of that period.

3. See Cottam (1964) for the history of those events.

years. Mossadeq aimed at a non-oil 'self-reliant' economy. The non-oil sector flourished and local industries were boosted. In particular, non-oil exports were sharply stimulated by government policies such as a dual exchange rate system. Moreover, the government embarked on a programme for the eradication of illiteracy and improvement of health services. Unfortunately, the popular government of Mossadeq did not last long. Once again the country was subjugated by a foreign power. That regime was overthrown by a CIA organised coup d'état which restored to power the Shah who had just been forced to leave the country.¹

Though the nationalist movement failed, the agreement with the newly formed Consortium of international oil companies² raised the share of Iran in the profit from 16 to 50 per cent. Between 1954 and 1959 oil revenues expanded rapidly. They reached about RI. 17.6 b. in 1959 against RI. 1.6 b. in 1949, immediately before nationalisation; as a percentage of government revenues they mounted from 11 to 43.³ Moreover, in 1959 oil revenues accounted for over 6 per cent of GNP, and oil was responsible for about 72 per cent of export earnings.⁴ Oil revenues contributed to the opening up of the economy once again. Traditional industries deteriorated once more, imports rose fast, and non-oil exports remained, more or less, stagnant between 1956 and 1962.⁵

Rapid expansion of imports led to a serious balance of payments crisis

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1. For details see ibid. chap. 15, in particular the quote from the Saturday Evening Post of 6 Nov., 1954, in pp. 227-9.
 2. The structure of shares were as follows: British Petroleum, formerly A.I.O.C., 40%; Royal Dutch Shell, 14%; five American oil companies, each 8%; a French company, 6%.
 3. The figures are based on Amuzegar and Fekrat (1973), p. 24.
 4. Based on Outline of the 3rd Plan, p. 23, Table 1.7 and the same source as Table A.2.2 and A.4.1.
 5. Outline of the 3rd Plan, loc. cit.

in 1958 which was further exacerbated by the sluggish growth in oil revenues 1959-61.¹ In addition, soaring prices and wages intensified the economic problems,² and some social unrest became evident. The slow growth in oil revenues was caused by a reduction in the posted price by the oil companies. The events of 1958-61 stimulated three main responses by the Government: foundation of OPEC in 1960 in co-operation with some exporting countries;³ embarking on a 'stabilisation policy' dictated by the IMF over 1960-61;⁴ and a change of emphasis in the development strategy which became noticeable in the text of the ensuing plan (3rd plan). That strategy was apparently directed towards industrialisation by means of import substitution.

1962-70

In 1962 the Government apparently embarked on a series of reforms to promote development. Since that year is also the beginning of the period of this study let us first present a brief picture of the situation to show what sort of problems the Government would have been expected to tackle. That picture meanwhile provides the base for a comparison with the situation at the end of the period under study i.e. 1978.

In 1962 the country exhibited almost all the signs of underdevelopment and 'dependence'. The annual per capita non-oil GDP and private consumption were small; though reliable figures are not available, the relevant figures, estimated by B.M.I., are \$ 166 and \$ 152, respectively.⁵ What is more, the

1. Ibid., pp. 16-7 and 26.

2. Ibid., p. 21; between 1958 and 1960 the Cost of Living Index rose by 22 per cent.

3. Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. See Mikdashi (1972), pp. 29-34 for more details.

4. See Outline of the 3rd Plan, pp. 17-21.

5. Based on Tables A.4.1 and A.4.6. and A.8.1.

disparity between rural and urban areas, and within each area, was considerable, and poverty was widespread. According to a rough estimate the ratio of the per capita consumption in the urban areas to that of the rural areas was about 2.1 in 1962.¹ In some regions such as Bluchestan the annual per capita income was as low as about \$ 40 to \$ 50.

Illiteracy, lack of education facilities, health services, and sanitation, particularly in the rural areas, were among other characteristics of the country. For example, according to 1966 national census, the illiteracy rate seems to have been larger than 70 per cent for the whole country, and 85 per cent for the rural areas.² In the same year only about 33.5 per cent of the children of schooling age attended schools.³ According to the 1966 census there were 3.1 doctors for every 10,000 head of population.⁴

The country was dependent on oil as a source of income, foreign exchange and Government revenues (see Table 1.2). Manufacturing production was low, about 12.3 per cent of GNP, but the country was almost self-sufficient in terms of food.

Over 1962-70, export earnings from oil yet again showed a remarkable growth. Despite the formation of OPEC, earnings per barrel did not increase noticeably. The growth was almost exclusively due to fast increase in the volume of exports; export earnings and the volume of exports rose by an average annual rate of 14.3 and 14.2 per cent, respectively.⁵ (See also Table 1.3.)

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1. The data on the distribution of consumption expenditure within each area are, for that period in particular, very scanty and unreliable. Nevertheless, there are signs that the distribution was fairly unequal, particularly within urban areas. (See P.B.O., "Income Distribution Projection for Iran", unpub. mimeo (1974).)
 2. Based on M.A.I., Salnamah 1973, p. 85. All those who were able to read a simple text were regarded, in the census, as literate. The figure covers the population of over seven years of age.
 3. Between 6 and 18 years of age. Based on the same source and reported in B.M.I., An. Rep., 1970, p. 178.
 4. The figure also includes dentists. Based on M.A.I., ibid., p. 120.
 5. Based on Tables A.5.1 and A.3.1 . Include exports of refined products.

The new wave of despotism which was initiated immediately after the coup-d'état of 1953, but held in check for a short period by the social unrest of 1960-62, was intensified over 1962-70. The government gained absolute political power. Oil revenues helped implementation of a land reform which defused the power of landlords. The landlords, who previously had a strong power in the parliament, were believed to oppose industrialisation, as well as modernisation of agriculture. Subsequent to the land reform bureaucrats gained power, at the cost of landlords, in the parliament.

Some large projects such as steel, petrochemicals, and copper mining and processing were launched by the government over the period concerned. Meanwhile, some import substitution, mainly in assembling of luxury goods, took place in the private sector, behind a heavy protection wall.¹

The national income data of Iran are not reliable, particularly in the case of private services and agriculture, and the growth rates of components of non-oil GNP might be over-estimated.² None the less, judged by the available statistics the performance of the economy was not bad if growth alone was to be considered as a measure of development. According to Table 1.1, the value added in non-oil GDP and its components, except for agriculture, expanded quite rapidly. However, the economic history of the period reveals two kinds of misconception of development by the authorities. Firstly, growth alone was identified with development. As we shall show later on, less attention was paid to the distribution of the benefits of growth.

1. See Sadigh (1975), particularly pp. 287-90.

2. For example the contribution of manufacturing seems to be inflated by the profit margin allowed by the protection; See Avramovic (1970).

Table 1.1

Average annual rate of growth in non-oil GDP and its main components (in constant prices), and in consumer prices (1962-70)

	<u>%</u>		<u>%</u>
Non-oil GDP	9	Services	11.1
Manufacturing ¹	11.8	Government	15.1
Construction	8.9	Others	9.6
Agriculture ²	3.7	Consumer Price Index	1.7

-
- 1. Includes mining.
 - 2. To take account of fluctuations in harvest due to weather conditions, the rate is calculated for 1962-71.

Sources: Tables A.4.1, A.6.7.

Moreover, despite rapid growth of Government services, social services did not expand quickly. Secondly, development was particularly identified with industrialisation, so growth was lop-sided against agriculture. Obviously, assuming that the figures are correct, the performance of agriculture may not seem very bad if put in the international context.¹ None the less, the magnitude of the financial resources available to Iran were not comparable with those of many developing countries.

In spite of a noticeable rate of growth in non-oil GDP over 1962-70, reliance on oil increased and the economy further integrated into the world economy. In fact, according to Table 1.2, the relative importance of oil in GNP, exports, and Government revenues escalated sharply.

1. The average annual growth rate of agriculture for developing countries as a whole was 2.5 and 3.4 per cent over 1961-65 and 1966-70, respectively (UN, World Econ. Survey, 1975, Table 1).

Table 1.2

Various indicators of reliance on oil and imports (%)

	<u>1962</u>	<u>1970</u>	<u>1974</u>	<u>1977</u>
Oil revenues/total Government revenues	44.7	49.3	86.4	73.6
Oil revenues/GNP	6.9	10.6	38.6	28
Export earnings from oil/total exports of goods	79.2	82.1	97.4	97.9
Imports ¹ /GNP	12.1	15.9	14.3	18.7
Imports ¹ /Non-oil GDP	14.6	19.7	27.4	28.1
Current debit items of B.R.P. [*] /Non-oil GDP ²	n.a. ³	27.8	51.6	49.2

* Balance of Receipts and Payments.

1. Imports of commercial goods only, bought in cash or credit.

2. Payments for imports of goods, including non-commercial goods such as armaments, services, and interest. Also see the note at the beginning of A.5.

3. The available data do not appear reliable.

Sources: Tables A.2.2, A.4.1, A.4.3, A.5.2 and A.5.3

Table 1.3

Export earnings^{*} of the oil sector¹ 1913-1977

<u>Period</u>	<u>\$ m.</u>	<u>Period</u>	<u>\$ m.</u>
1913-51	302 ²	1913-70	9167
1955-70	8865	1971-73	9371
1955-61	(1895.3)	1974	18523
1962-70	(6970)	1975-77	60041

* The sum for various sub-periods shown.

1. Excludes gas.

2. Converted to dollars from sterling (£1 = \$2.5).

Sources: 1913-51: Issawi, C. and Yeganeh, M., The Economic Development of the Middle Eastern Oil (London, Faber and Faber, 1962), Appendix Table 6; 1955-61: Outline of the 3rd Plan, p. 23; 1962-77: Table A.5.2.

1971-73 and 1973-78

In 1971 oil revenues suddenly jumped by over 77 per cent,¹ mainly due to the increase in the revenue per barrel. This was in turn the result of the rise in posted price from \$1.80 to \$2.18^{a barrel} and in the share of the host government, according to the Tehran Agreement of February 1971. The Agreement was reached between the Gulf oil producers and the 'majors' after a long negotiation.² None the less, within two years the oil price was to shoot up unprecedentedly again. For the first time this took place through unilateral action of OPEC in October 1973 when it touched \$5.119. By the end of the year it was raised to the figure of \$11.651.³ These jumps, together with a series of tax and royalty increases in 1974, boosted the revenues per barrel of the marker crude to \$9.74 against \$1.43 in 1972. As far as Iran is concerned, the effect of those events on total oil earnings was colossal. According to Table 1.3, in 1974 alone foreign exchange receipts of the oil sector were almost twice as large as those over 1971-73, which in turn were greater than the cumulative amount earned throughout the history of oil exports.

After the price rise of 1973 the role of the Government in economic activities became extremely significant. It collected the bulk of GNP in the form of oil revenues (Table 1.2). Moreover, some political changes took place. A multi-party system was substituted by a single party system,

1. Based on Table A.2.2.

2. See Yeganeh (1971) for details. The Agreement was signed in Feb. 1971; accordingly the revenues, per barrel, of the host government increased from about \$0.86 to \$1.23 by over 45 per cent.

3. Meanwhile, in 1972 the Geneva Agreement provided for a proportionate increase in the government take following devaluation of the US dollar in 1971; and in June 1973 the posted price was raised by 11.9 per cent in a supplementary agreement to the Geneva Agreement. For the history of events between 1971 and early 1974 see the supplement to P.I.W., April 22 1974, on "The International Oil 'Debate' since 1971"; for an analytical view of the events over 1970-73, see J.E. Atkins (1973).

the Government became more autocratic, repression increased, and the military machine was expanded further.

Immediately after the price rise of 1971, the Government accelerated the injection of funds into the economy over 1971-72, i.e. the last two years of the 4th plan.¹ Meanwhile, the planned annual average rate of growth of non-oil GDP for the succeeding plan was set at 11.3 per cent, against the actual rate of 9 per cent over the years 1962-70.² However, following the price rise of 1973, the planned rate was revised further upward to 15 per cent.³ In particular, the planned average annual rate of growth of the manufacturing sector was revised, from a high rate of 15.3 to 21 per cent.⁴ In the meantime, increasing funds were being continuously injected into the economy in the form of investment outlays and current expenditures over 1973-74 before the revised version came officially into effect in early 1975. It was believed that allocation of development funds would achieve the high rate of growth set for non-oil GDP. Money was regarded as a panacea for all possible shortages, bottlenecks and problems. In reaction to the rare objections that the planned rate was too ambitious, the official response was that shortages of goods as well as labour can be overcome by imports. Accordingly, acceleration would be achieved, it was suggested, and inflation would be avoided. Even the planners seem to have believed that it was possible 'to meet all domestic shortages from foreign markets'.⁵

1. See Chart A.2.1.

2. Based on The 5th Plan, a summary, p. 8 and Table A.4.2.

3. The 5th Plan Revised, a summary, p. 18.

4. Ibid., p. 110.

5. See The 5th Plan Revised, a summary, p. 6; see also p. 10 and p. 24.

In order to achieve that rate, the planned investment outlays for 1975-77 were, as shown in Table 1.4, raised to a phenomenal level as compared with the actual figures for 1971-74. Note that investment over the latter period was in turn enormous when contrasted with that for the period 1962-70 presented in the same table. The table implies that for every year over 1975-77 the investment outlays were to be almost as great as that of the whole decade between 1963 and 1973. What is more, the table indicates that not only were the investment outlays to be accelerated sharply, but the planned increase in consumption was also huge.

Table 1.4

Average annual investment and consumption in the public and the private sector over various periods (Rl.b. in 1959 prices)¹

	<u>Investment</u>	<u>Consumption</u>
1963-70 (actual)	98.8	386.2
1971-74 (actual)	227.2	743
1971-72	191.2	620.8
1973-74	262.8	865.6
1975-77 (planned)	1009.5	1307.7

-
1. The actual figures were in 1974 prices and converted to 1959 prices on the basis of relevant implicit deflators as in Tables A.4.6 - A.4.8; those of the planned figures were in 1972 prices and converted into 1959 prices in the same way.

Sources: Calculated by this author based on Tables A.4.6 - A.4.8 and their sources and P.B.O., The 5th Plan Revised, a summary, p. 14.

No sooner than 1974, a chain of bottlenecks appeared in the economy: ports became congested; transport and communication became overloaded;

skilled labour, and for a while unskilled labour, became scarce; the demand for electricity overtook supply; and the supply of consumer goods could not match demand. Consequently, growth in non-oil GDP, which had accelerated over 1971-73, slowed down while inflation¹ accelerated considerably (Table 1.5). In fact, growth was further decelerated after a slight spurt in 1975 and inflation became excessive according to the same table. Moreover, that spurt in growth should not be taken seriously because it was almost exclusively due to the spectacular growth in construction in that year.²

Generally speaking, the pattern of growth over the plan period features, as shown in Table 1.6: failure to accelerate manufacturing and agriculture to the level planned, although the achieved rate of growth of the former seems rather high; noticeable growth in construction activities; and a significant contribution of services, including Government services, to growth of non-oil GDP.

To tackle shortages and inflation the Government took a series of measures most of which involved further injection of funds into the economy in one way or another, as though money could remove all bottlenecks. To attract foreign labour higher wages were offered; to increase supply, imports were to increase; to decrease inflationary pressure, import duties were relaxed, and basic consumer items were subsidised. To compensate the Government employees for rent increases, they were paid rent subsidies. Meanwhile, a price control policy was also initiated in almost all activities except for construction. However, little attempt was made by the Government

1. Over 1962-70 inflation was negligible (see Table 1.1).

2. The rate of growth of construction in 1975 was over 44 per cent; based on Table A.4.4.

Table 1.5

Changes in non-oil GDP (in real terms) and inflation (1970-77)

<u>Year</u>	<u>Growth rate</u>			<u>Year</u>	<u>Growth rate</u>	
	<u>Non-oil GDP</u>	<u>C.p.I.</u> ¹			<u>Non-oil GDP</u>	<u>C.p.I.</u>
1970	9.8	1.6		1975	15.7	9.9
1971	9.1	5.5		1976	13.8	16.5
1972	14.5	6.4		1977	7.4	25.2
1973	15.4	11.2	average (1973-77)	13.3	15.6	
1974	14.5	15.4				

1. Consumer price index.

Sources: Tables A.4.2., A.4.4 and A.7.4.

Table 1.6

Annual average growth rate of main components of non-oil GDP in real terms (1973-77)

	<u>Planned (1973-77)</u>	<u>Actual (1973-77)</u>		<u>Actual 1977</u>
		<u>Growth rate</u>	<u>Contribution to growth</u> ¹	
Manufacturing and mining	21	15.8	3.1	10.7
Construction	?	14.4	1.1	3.2
Agriculture	7	4.6	0.8	0.8
Services	16.4	15.3	8.3	9.2
Gov. Services	?	(14.2)	(2.33)	(14.2)
Others	?	(15.8)	(6)	(7)
Non-oil GDP	15	13.3	13.3 ²	7.4

1. The figures are the multiplication of the relevant growth rate by the relative share of the corresponding sector in non-oil GDP over the period of the plan.
2. The discrepancy between this figure and the sum for various sectors is the contribution of water and electricity not shown in the table.

Sources: Based on The 5th Plan Revised, a Summary, pp. 14-6, 110, 125; and Table A.4.4.

to limit expansion of demand either in the public or the private sector. In fact, the Government acted in the opposite direction. In 1974 government employees were awarded a considerable wage increase, taxes were eased, government debts owed to the public were repaid and credits expanded.

The government continued its expenditure drive, though to a varying degree, throughout the plan (see chart A.2.1). The official policy was to export as much oil as was demanded in the world market, and to spend the revenues mainly inside the country as quickly as possible. There was no intention of a deliberate reduction in the rate of depletion of oil. As a matter of fact, despite large oil revenues, the Government ran a substantial budget deficit in the last year of the plan (1977), RI 388.5 b. (\$5.49 b.), equal to 25.9 per cent of oil revenues in the same year. In the following year the approved figure of deficit was even larger; it was RI 435.3 b. (\$8.5 b.), which is over 28 per cent of the corresponding figure for oil revenues.¹

Not only did the economy fail to accelerate growth as intended, but the balance of trade also ran into deficit by the end of the plan period. Between January and April 1978 current payments exceeded current receipts by over \$500 m. due to fast expansion of foreign exchange payments, according to the following table. The deficit increased in the following months up to October, for which data are published, according to the same table. Meanwhile, non-oil exports declined in absolute terms from \$634.7 in 1973 to \$523 m. in 1977.²

1. Based on the Budget Act, 1978. Note that the deficits of the public sector as a whole were even greater. On the basis of the approved figures, the public corporations ran an extra deficit of RI 182.6 b. in 1977, and RI 168.4 b. in 1978; based on the relevant texts of the Budget Acts, summary tables.

2. Based on Table A.5.3.

Table 1.7

Foreign exchange receipts and payments January - October 1978 (\$ m.)

	<u>Jan.-April</u>	<u>% Change</u> ¹	<u>April-Oct.</u>	<u>% Change</u> ¹
1) Current receipts	6884	0.4	13666.3	9.1
of which oil and gas	(5532)	-1.9	(10605.3)	1.4
2) Current payments	7388	33.4	14267.6	22
3) Net (2-1)	-504		-601.1	

1. Over the similar period of the previous year.

Sources: B.M.I. Bulletin No. 176, pp. 106-10; and No. 178, pp 42 and 68.

While the surplus in the balance of trade disappeared, the economy's reliance on oil, both in the structure of exports and in the structure of output remained extraordinarily high as is clear from Table 1.2. Note that though the table indicates that the relative importance of oil in GNP declined noticeably, the figure should not be taken too seriously, for two reasons. Firstly, the decline in the ratio was to a great extent due to the high rate of inflation in the non-oil sector, i.e. the increase in the non-oil GDP deflator.¹ Secondly, the decline in the rate was partly due to a fall in the export of oil not intended by the Government.

Moreover, the economy is more than ever geared to imports, obviously through oil, as various indicators in Table 1.2 manifest. It is worth adding that the percentage of current foreign exchange payments for imported

1. In constant 1974 prices the ratio declined from 46% to about 36%.

goods to the sum of the value added in agriculture and the industrial sector¹ was about 78 in 1977. This figure implies that for each unit of domestic value added ^{of goods produced} outside oil almost one unit of imports was required.² Moreover, the dependence of the economy on foreign countries goes beyond the ratios of oil and imports to GNP. The economy was more than ever dependent in the supply of food, in technology, taste and culture. Above all, the Government needed external political support unprecedentedly because its internal political base was more shaky than ever before.

In our view, the misconception of development and the maldistribution of the benefits of growth were the main economic reasons for the deterioration of the political base of the Government. Over 1962-78 the life of the oil reserves almost halved, and approximately \$100 b. of oil revenues were spent (Table 1.6). Yet the general public did not benefit from oil revenues and growth in the non-oil sector, as one might have thought. In the eyes of the public at large, the opportunity provided by oil was being lost. It is true that the per capita private consumption, in 1962 prices and exchange rate, increased from \$152 in that year to \$268 in 1977.³ None the less, as we shall show later on in this thesis, the inequality in the geographical and size distribution of consumer expenditure sharpened extraordinarily. Despite some improvement, the state of health services, education facilities and social security were still poor in general, particularly in the rural areas and small towns; we will provide some evidence on these points. However, to present just one example: ^{in 1977} there were only about four physicians for every

1. Manufacturing and mining, construction, water and electricity.

2. The figure on imports includes imports used by the oil sector, but their amount is not very large. The data are based on the same sources as Table 1.3.

3. Tables A.4.1 - A.4.4 and A.8.1.

10000 head of population, and 46% of them were located in Tehran which accommodated barely 14 per cent of the population.¹

Economic failures of the regime, rising inflation, large expenditure on armaments, waste of oil revenues, corruption, and generally speaking, dissatisfaction with the Government policies contributed to growing discontent of the public at large in 1977. Discontent turned into the mass upheaval of 1978 and the regime soon collapsed.

To summarise, the events of 1973-78 lead us to the following points. Firstly, while going 'into' oil took place quite rapidly, diversification i.e. acceleration of non-oil GDP, faced serious set-backs. Going 'into' oil is not entirely strange. As explained earlier, the economy has got to go 'into' oil before going 'out of' it. However, the experience of those years indicate that acceleration of non-oil GDP was not as easy as going into oil.

Secondly, one important consequence of going into oil was the extraordinary escalation of the role of the Government in economic activities in general and in the allocation of the economic surplus in particular. Government policies will remain extremely decisive in the future.

Thirdly, the revolution of 1978 revealed the fact that the Government's policies were in conflict with the aspirations of the general public, and the Government had a wrong conception of development.

Fourthly, the revolutionary Government is faced with the enormous task of diversifying the economy before oil is exhausted (some time early in the

1. Based on M.A.I. Salnamah, 1977, p. 107 and 35; and Table A.8.1.

next century), through export expansion, import substitution, or a combination of both. Even assuming that the need of the country for foreign exchange remains at the 1977 level, in absolute terms,¹ the economy has to develop a viable export sector with the capacity to produce well over \$20 b. (in real 1977 prices) of exportable goods. Considering that growth in output is also accompanied by expansion of domestic demands, the task seems colossal. At any rate, to reveal the magnitude of the tasks involved, let us add that the required exports are almost as great as half of the total manufacturing exports from developing countries as a whole in 1977.²

1.4 The Hypothesis and Methodology

We propose the following hypothesis as a general guideline on the basis of which a theoretical framework will be developed in the next chapter. While trade in oil has some special advantages for development, it also may exert some disadvantages. We have already argued that export earnings per barrel of oil should be increased through OPEC and the earnings be utilised, by the Government, for acceleration of diversification and development to prepare for the time of exhaustion. However, whereas the OPEC price agreement raises the export earnings, and improves the terms of trade, through enhanced bargaining power, it also increases risks of concentration in oil and adds to the risk of breakdown of the agreement. More importantly, in spite of availability of foreign exchange, acceleration of development is

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1. This implies that the import-output ratio is to fall by import-substitution. Despite that assumption, the need for foreign exchange (in absolute terms) is likely to be greater than the assumed figure, because GNP also is to grow as we discussed in section 1.2.
 2. The latter item was \$20.3 b. in 1973 in the wake of oil price rise; see UNCTAD, Rev. of International Trade & Dev., 1975, p. 24, and Handbook of International Trade & Dev. Stat. 1979, p. 100 and about \$40 in 1977

hampered by: physical bottlenecks in the removal of which the role of imports is limited; and institutional obstacles partly related to, and created by, oil and partly related to the socio-economic background of the country. In particular, the problems of acceleration may be exacerbated, in the case of Iran, by various Government policies. Although oil provides the Government with the means of diversification and development, it may at the same time weaken the 'political will' to achieve these. Similarly, the Government policies also may affect the pattern of development in a way inimical to the achievement of the development objective we outlined earlier; especially they may heighten 'despotism' and accentuate the maldistribution of benefits of development in favour of the 'Governmental class', to be defined, and against the majority of the people.

We should stress here that the international aspects of oil, though inserted in the hypothesis, will be discussed only in general terms as a part of our conceptual chapters 2 and 3; the rest of the thesis will be devoted to an empirical examination of the problems of increasing growth and distributing the benefits of development in Iran.

Iran is a useful case study for two main reasons. First, not only is she a large oil producer; in addition, she is endowed with more human and material resources than other large and middle exporting countries let alone small ones; and she enjoyed a higher level of development in terms of socio-economic infrastructure on the eve of the 1973 oil price rise. Hence, if she is faced with physical shortages, others would suffer far more. Second, being Iranian ourselves, we have had a better access to sources of data in Iran as against other oil economies; the knowledge of local language was yet another advantage.

We must concede from the outset that the reliability of the Iranian statistics is, except for the budget figures, very poor. The production data, particularly those of Agriculture, and index prices, are especially sketchy. Nevertheless, they do not, fortunately, negate our analysis. It is believed, in academic circles, that the data on changes in output are overestimated, and those of price indices underestimated. The correct figures would in fact intensify our findings regarding the limit on acceleration of growth, as well as upsurge of inflationary pressure. Moreover, the effort to adjust the data would not only be a monumental task, but also quite fruitless owing to lack of information on methods of estimation and collection. Concerning the budget data, we have made the relevant adjustment, to the extent possible, as explained in the appendix.

Because of the nature of the data, we preferred informal data analysis, through tabulation and charts, to other methods.

We are aware that the subject of the thesis is fairly general, but indeed we meant it to be so. The reason is that we believe the socio-economic problems of acceleration of development, particularly the role of the Government, make up a theme which is, for all its generality, the burning issue facing the present and the future generation in Iran. In fact, when this research was started in 1975 we thought to specify areas into which the economy may diversify. After doing some work on that line we realised that it was not the most topical question anymore; by then the oil revenues were wasted and the opportunity lost. Accordingly, the critical concern was to show: why in Iran, and other oil economies to varying degrees, the 'expenditure drive' strategy cannot accelerate development beyond a limit; and why the oil resources were being squandered in spite of the awareness that the nation may face a socio-political disaster when oil is exhausted.

Chapter 2

Trade in Oil and Development

2.1 Introduction

In the light of the hypothesis suggested in the previous pages, this chapter outlines the theoretical framework for the study. The next chapter is devoted to clarification of various concepts related to the argument, e.g. bargaining power, losses due to risks of trade, and their joint relation to diversification.

The existing body of literature on trade and development fails to explain the case of an oil economy. The literature consists mainly of two general streams: the classical and neo-classical theory; and the critical views on that theory, namely Prebisch's views, marxist theories, theory of dualism, staple theory, and theories of acceleration of development. This last group may in turn be sub-divided into: 'big-push' theories, and Kalecki's theory of acceleration. Kalecki's views are less well known than all the other theories outlined above, but they are more relevant to the argument of this thesis. Hence, we will make only a few general comments on the other theories, but focus in particular on the Kalecki theory in section (2). In section (3) we develop and modify Kalecki's theory in order to: take account of the particular case of an oil economy, incorporate recent events in the international oil market, and consider the specific socio-political aspects of development in Iran.

The original versions of the classical theories of free international trade do not fully explain the case of an oil economy, for three main reasons. Firstly, they fail to take account of the influence of bargaining power on the terms of trade. The terms of trade are, according to these theories, determined merely by supply and demand. The absence of power in trade relationships is taken for granted in the theories,

because they are fundamentally based on the assumptions of an atomistic market and the free flow of international trade.¹ Secondly, while they consider the dimension of return (i.e. the supply effect) of trade, they neglect its risk dimension.² Thirdly, those theories assume socio-political factors as given, as though trade had no influence on such factors.³ Moreover, neither the proponents nor the critics of the classical economists have developed a comprehensive theory to incorporate the above-mentioned factors, even though some of the above-mentioned points are considered, here and there, partially. Hence, we need an appropriate theory for the case of oil. Before developing such a theme, let us survey the theories of acceleration i.e. the 'big-push' theories, and Kalecki's ideas.

2.2 Trade and Acceleration of Growth

The outstanding feature of the theories of acceleration is that growth is to be accelerated by deliberate policies of the Government; trade plays a secondary role. One may classify those theories into two groups: 'big-push', and Kalecki's approach.

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1. Later the influence of transnational companies in trade was considered, and some aspects of the political power were dealt with in the 'optimum tariff argument' (e.g. Scitovsky 1942) and also in the terms of trade argument (e.g. Hirschman 1968). Nevertheless, some developments are required to take account of the case of oil exporting countries which utilise their economic power collectively through political means.
 2. Even those proponents who considered the risk dimension regarded, with the exception of Hirschman (1968), fluctuation in export earning as the only risk (see the next chapter for details).
 3. J.S. Mill was the only classical economist, to my knowledge, who mentioned the effects of trade on attitude and incentives, in the passage on dynamic aspects of trade in his Principles (1878, vol. II, pp. 121-2). However, he did not consider the effects of trade on political factors; besides, he considered only the positive effects on attitudes and incentives; its possible negative effects were not treated.

Being dissatisfied with proceeding 'bit by bit' through trade, a group of development economists presented the theory of the 'big push'.¹ This theory was originally synonymous, in the literature, with that of balanced growth. However, the theory of unbalanced growth, developed by some critics of that theory,² may also be regarded as a version of 'big-push'. Though the two theories are different in some assumptions, as in strategic implications, they have a lot in common; and they are subject to some common criticisms. According to both versions, growth is accelerated through massive injection of funds³ into the economy by the Government.⁴

Both versions of the theory of 'big-push', particularly the balanced growth version, are subject to the following criticisms. Firstly, they overemphasise the role of capital investment in causing growth. Secondly, while the state is recognised as having an important role to play, the nature of the state, its will, and its preference are not considered. Thirdly, the inhibiting role of bottlenecks and of physical limits to accelerating growth is underestimated.⁵ So is the role of institutional and organisational factors in removing physical limits. Finally, the significant role of trade in accelerating growth is neglected in the balanced growth version.

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1. See Rosenstein-Rodan (1961), particularly pp. 57-8 and 63-5; see also his 1943 article. For a good survey of the theory, see Myint (1973), chs. 7, 8; also Nath (1962).
 2. Hirschman (1961) and Streeten (1959).
 3. In complementary industries, Rosenstein-Rodan (1961), pp. 57, 65, 61-3; or in industries with great potential linkages, Hirschman, op. cit., pp. 36-7, 40-1, 65-72.
 4. The Government's main task is to create balance through planning (Rosenstein-Rodan, op. cit., p. 58); or to take decisions inducing imbalances (Hirschman, op. cit., pp. 202-4).
 5. They are removed, it is maintained, by social overhead investment in advance (Rosenstein-Rodan, op. cit., p. 65); or they can be removed in due course whenever they arise (Hirschman, op. cit., pp. 44-9 and 158-66).

The Kaleckian approach

In contrast to the theory of balanced growth, Michal Kalecki overestimated the role of trade. His theory is rather general and cannot explain the case of an oil economy, particularly for the period after the rise in the price of oil in 1973.¹ However, it deserves particular attention because it focuses on some problems of acceleration of development which appear to be relevant, to some extent, to the case of an oil economy. In order to examine the Iranian economy within the Kaleckian approach, we may modify his theory and develop it by incorporating particular features of an oil economy, more recent changes in the international oil^{market}, and socio-political aspects of development in Iran.

Kalecki formulated a fairly comprehensive theory of development as early as 1955, in which he incorporated the role of institutional factors. He also considered the importance, in accelerating growth, of trade, foreign credits, and above all of improvements in the terms of trade. In understanding his views, it is useful to follow his line of thought.² First, we will consider a closed economy; afterwards trade will be introduced into the argument. Before explaining the theory, however, some general points need mentioning.

Consider a development plan, or a few subsequent plans, for a period of five to ten years. Assume, for simplicity, that the objective of the planners is to accelerate the growth of national income and production capacity without inflationary pressure. The highest rate of growth (r) attainable during the plan period will depend on two main factors: 'willing-

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1. The last time he modified his theory was in 1970.
 2. Our reconstruction of the theory is based on Kalecki (1955, 1960, 1963, 1966, 1968 and 1970). Since our rearrangement of his theory is not exactly the same as any of his various formulations, we may call it the Kaleckian approach.

ness' to accelerate investment outlays;¹ and what we may call 'the capacity' to invest. The former depends on the availability of funds, on the nature of Government, on the class structure, and on the vested interests of the ruling class. The availability of funds in turn depends, ceteris paribus, on the readiness of the community to restrain the rate of growth of consumption. In order to accelerate growth the relative share of investment in national income should be increased, i.e. this requires, ceteris paribus, a decline in the average propensity to consume.

The capacity to invest depends on the supply of physical resources, on the supply of human resources, and on institutional factors. Physical resources include capital goods, intermediate goods and raw materials, and consumer goods. Consumer goods may be divided into necessities (basic needs), and non-essentials (luxury).² The increase in investment raises the demand for necessities because of the rise in employment and income. Human resources include both skilled and unskilled labour. Institutions may create, or fail to remove, constraints on growth, as we shall explain shortly.

For simplicity assume that the capital-output ratio, input-output coefficients, and the income elasticity of demand for necessities are given.³ To a given objective rate of growth of national income (r_0), there corresponds a certain share of investment in national income together with a certain rate of growth in demand for capital goods, consumer goods in general, necessities, and raw materials. To a higher rate of growth

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1. Kalecki did not consider the contribution to the acceleration of growth, of an increase in labour productivity resulting from a shift of the labour force from one sector to another. For simplicity we also leave out that possibility.
 2. For definition of these terms see 1.2.1.
 3. My addition.

than r_0 corresponds a higher investment-income ratio (lower consumption-income ratio), and higher rates of growth in demand for physical resources.

The closed economy

Assume, for the moment, that accelerating investment is financed through taxation of the well-to-do by imposing taxes on consumption of luxury goods; and that the Government has the political will to develop the economy.

Kalecki argues that even when the volume of investment outlays is not a constraint, the willingness of planners to undertake a high rate of investment outlays is not a sufficient condition for growth. The physical and institutional factors, he argues, put 'ceilings' on the rate of growth of national income. Firstly, the supply of capital goods is limited in a developing country. This is mainly because of inflexibility in the production capacity of investment goods due to scarcity of investment resources and technological know-how.

Secondly, the possibility of expansion of raw materials and some necessities, namely foods, is limited. This is because they are among 'supply determined industries'. According to Kalecki, supply determined industries are those activities whose long-run rate of growth is limited by technical and organisational and/or institutional barriers, 'so that even a considerable increase in capital outlays will not help to raise their output at a high rate'.¹ Raw materials are 'supply determined' largely owing to technical and organisational barriers. These barriers

1. Kalecki (1963), pp. 14-5. In contrast, demand determined industries are supply elastic; their output can be increased in the short and medium run considerably more easily than that of the supply-determined industries (loc. cit.).

consist of limited natural resources (land, mines ...), the time necessary for adaptation of new technology, difficulties in recruiting manpower, and long periods of construction.¹

Food is supply determined mostly because of institutional obstacles to development of agriculture. These institutional obstacles are the feudal or semi-feudal pattern of land ownership, where land reform is not implemented, and the lack of other facilities even where land reform is undertaken. Such facilities include provision of finance, technical services, agricultural infrastructure, and above all marketing facilities. Otherwise even when land reform is implemented, the peasants would still be exploited by money-lenders and traders.²

Assuming that there are some reserves in the production capacity of investment goods industries, the extent to which increased investment outlays can contribute to the acceleration of growth of national income without causing inflation is limited. It is limited by the ceiling on the rate of growth of necessities and other supply determined industries.³ Increased investment outlays beyond that limit would cause a rise in the price of necessities. Inflationary pressure would be felt. Unless wages follow suit, the result will be lower real wages, forced savings, and redistribution of income in favour of the upper classes. If wages do increase, an inflationary spiral will become inevitable.

The role of trade

Kalecki incorporated trade in his model. Following him, at this

1. Op. cit.

2. Ibid., p. 21; and Kalecki (1970), pp. 150-1. Note that some of the factors listed are our own addition.

3. Kalecki (1970), pp. 148-54 for a graphic demonstration of the issue, see also Kalecki (1953), pp. 46-51.

stage we assume that trade is to be balanced: that is, foreign credits are not available. Trade has a 'supply effect' or 'transformation effect'. It eases the ceiling on the rate of growth of supply determined products.¹ Kalecki regards trade as the 'joker' of growth: 'all the tensions and bottlenecks of such an economy [a developing country] can be translated into additional demand for imports'.² Consequently a higher rate of growth of national income will become attainable.

Kalecki argues that a 'favourable trade' will, in particular, facilitate import of necessities and this will allow a higher rate of growth without inflationary pressure.³ The reason is, in his view, as follows. The higher the rate of growth in investment, the more rapidly does the demand for imports of capital goods, raw materials, and semi-manufactures increase. So does the demand for necessities. In other words, the marginal propensity to import is an increasing function of r ; it will tend to unity as r increases.⁴ For a given growth in export earnings it becomes progressively more difficult to increase imports of necessities because of growing demand for imports other than necessities. However, a favourable growth in export earnings will allow bridging of the gap between the rate of growth in the demand for necessities and the rate of growth of their domestic supply.

Foreign credits, grants, and an improvement in the terms of trade

According to Kalecki, foreign credits, foreign grants and an improvement

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1. See Kalecki (1955), pp. 51-2; and Kalecki (1970), pp. 154-8; see also Sachs (1964), Chap. 6, particularly pp. 97-104; and K. Laski (1966).
 2. Kalecki (1966), p. 67.
 3. Kalecki (1970), pp. 154-5.
 4. Kalecki (1966), p. 72.

in the terms of trade have two aspects: not only do they increase the supply of necessities and other commodities, but they also add to the financial resources, i.e. economic surplus, available to the country for a given volume of output. Let us call the latter aspect the financial effect. Foreign grants, unlike foreign credits, do not involve repayments and debt services, but they may carry some political and economic obligations. An improvement in the terms of trade is more advantageous than foreign credits and grants because it avoids the problems mentioned above.¹

Kalecki adds that the financial effect would tend to reduce, pro tanto, the need for taxation of the well-to-do.² A radical expansion of taxes is usually difficult in a developing country for institutional reasons: the required legislation is prevented by the vested interests concerned and, even when tax laws are passed, collection is not easy and tax evasion is rampant.³ Under such conditions the assumption of financing development through taxation of the well-to-do, he adds, does not seem realistic.

Note that, theoretically speaking, the Kalecki prediction of the impact of a 'financial effect' on taxes could be contrasted with the following alternatives: it could increase investment for given consumption and taxes; or it could lead to both larger investment and larger consumption and maybe lower taxes. Note further that the argument is also valid about the rates of growth of the variables concerned.

1. Kalecki (1966), pp. 67 and 73-86; and (1955), pp. 54-8.

2. Kalecki (1970), pp. 160-1.

3. Kalecki (1968), p. 26.

To continue on Kalecki, the financial effect would benefit consumption of luxuries, imported or home produced, and luxury housing. As a result, imports of luxuries will increase and the structure of investment would change in favour of luxury goods. The planning system may not be able to direct the structure of investment in the private sector even if it wishes to. Even licensing may not be an effective measure where the extra income of the well-to-do is not taxed away.¹

Above all, the money income which is not taxed away will contribute to the total liquidity available for speculative hoarding and property speculation. These activities tend to expand under inflationary conditions, particularly in a developing country.²

As mentioned earlier, Kalecki overestimates the role of foreign exchange in the acceleration of development, and his theory does not take account of specific characteristics of the international market for oil and particular socio-political aspects of an oil economy. Nevertheless, it explains many of the physical and institutional problems of the acceleration of development in Iran and can be easily elaborated and modified to repair its deficiencies.

2.3 Oil and Development

To develop a theoretical framework within the Kaleckian approach in a way which could fully explain the case of Iran as an oil economy, in recent years, we will divide our argument into three parts: export earnings and characteristics of oil; oil revenues and acceleration of development; and oil, socio-political factors and development.

1. Ibid., p. 25.

2. Kalecki (1955), pp. 59-62.

2.3.1 Export earnings and characteristics of oil

Unlike many raw materials, oil provides ample export earnings, because it enjoys a strong international market. However, the opportunity provided by oil cannot last very long because it is exhaustible. Moreover, heavy concentration in oil also involves some risks. While the OPEC agreement improves the terms of trade, it at the same time increases the risks of concentration, and adds to them the particular risk of breakdown of the agreement.

Oil enjoys an exceptionally strong international market. It enters into international trade in large volume. On the demand side, oil products are highly income elastic and highly price inelastic. The long-term world supply of oil is inelastic because it is irreproducible and its reserves are limited. The known reserves of the exporting countries are concentrated in a few countries, mainly members of OPEC. Moreover, the cost of extracting oil in these countries is very low. As a result of the cost and the demand situation, so mentioned, there is a large 'rent' margin between the costs of production of OPEC oil and the price consumers are prepared to pay.¹

The distribution of the rent margin provides an area for bargaining among the parties involved in, or interested in, the international oil market. The parties concerned are not only 'few',² but they also include sovereign states; that is, the market is not atomistic, nor is international trade in oil free. On the supply side, there are Governments of a few

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1. This margin can in turn be divided into the following parts: the share of the Government of the producing country; the share of the oil companies; the taxes levied on the consumers by the Government of the importing countries; and the 'consumer surplus' enjoyed by the consumers.
 2. The concept of 'fewness' is used by Fellner (1949); it may be applied to the international oil market.

exporting countries who together supply the bulk of the world export of oil. They are engaged at the same time in a price agreement (OPEC). On the demand side, there are seven major oil companies ('the majors'), which together dominate the market,¹ and cooperate and coordinate, to some extent, their activities and policies. Moreover, since 1973 the Governments of a few oil importing countries - namely the main OECD countries - have become increasingly involved in the world oil market. These countries together import the bulk of crude oil exported by OPEC. In some cases the Governments are directly involved in the purchase of oil from OPEC.

In such a market the price of crude oil is not, and has never been, determined solely by the relevant supply and demand. It is influenced by the interests and relative bargaining power of various Governments within OPEC; and it is determined by the bargaining power of OPEC vis-à-vis the oil companies and the Governments of OECD countries. To that extent the terms of trade of an oil economy are also affected by power. Going further, trade in non-oil commodities, both imports and exports, is again affected, to a varying degree, by the power of the Governments and the power of the relevant transnational companies involved.² None the less, for simplicity we may ignore, in our argument, the effect of the power of non-oil companies on the terms of trade of oil exporting countries.

1. Since 1973 the position of the majors has changed, in the crude oil market, from price makers to price takers; and ownership of oil reserves has, in many OPEC countries, been transferred back to host countries. However, the majors have been able to maintain their dominant role in other aspects of the international oil business, such as exploration, transport, refining, marketing, and technology.

2. Note that as far as Iran is concerned the foreign trade is, in general, monopolised by the Central Government according to the Trade Acts of 1931 and 1936. The private sector takes part in trade under a licence system.

For the influence of power of Government on the terms of trade in

While the bargaining power of the oil companies depends on their degree of control over various aspects of the industry, the elements and bases of the bargaining power of the Governments concerned are more complicated. Hence, we will explain them in Chapter 3. Here let us just mention, at the risk of vagueness, that trade itself can be used as a tool of bargaining power. The Government of an OPEC country or OECD country, like any sovereign state, may interrupt trade in two ways: through imposition of tariffs, taxes or quantitative restriction; and more importantly through embarking on, or threatening, cessation of trade. Let us call the latter the political risk of cessation of trade. The power to interrupt trade is related to the 'influence effect' or 'dependence effect' of trade. The influence effect depends on the losses of risk of cessation of trade. This in turn depends, cet. par., on the degree of structural flexibility of the economy, or economies.¹

Despite its strong market, specialisation in oil cannot last long because it is exhaustible. In any case heavy concentration in oil involves some risks which we will shortly outline. In particular, while the OPEC agreement increases export earnings, it also increases those risks and adds to them the risk of breakdown of the agreement. Trade in oil is subject to three types of risks: i) the general risks of trade, interruption and cessation of trade (just mentioned), demand-induced instability in export earning; ii) the technological risk common to most raw materials, i.e. the risk of substitution by synthetics; and

general, see Scitovszky (1942), and Hirschman (1968). For a brief treatment of the power of transnational companies, see Diaz-Alejandro (1978). See also Galbraith (1973), Streeten (1973), R. Cooper (1968), ch. 6, Arndt (1976), Vernon (1970); the last two sources deal with the case of natural resources in LDCs.

1. Here we would like to mention that the effect of inflexibility on deterioration of the terms of trade has been considered - in the theory of 'immiserising growth' by some critics of the theory of comparative costs. However, the effect of inflexibility on terms of trade through its impact on bargaining power has not been studied yet.

iii) specific risks of breakdown of the OPEC agreement. OPEC increases the risk of interruption and cessation of trade because the Governments of OECD countries, alone or by collective action, may take retaliatory measures against OPEC, or any one OPEC country,¹ in response to deep intervention and involvement of OPEC Governments in trade in oil.

Demand-induced instability in export earnings arises, generally speaking, from fluctuation in income in importing countries,² from fluctuation in supply in other exporting countries, or from a combination of both. It is widely argued, though not agreed, that concentration in export of raw materials, particularly when accompanied by geographical concentration of market, increases instability in export earnings.³ The OPEC price agreement may increase the instability in export earnings of OPEC countries as a whole, and any OPEC country in particular. The change in the role of the 'majors' in the market⁴ since 1973 implies that OPEC acts as a residual in the world oil market over the course of world-wide business cycles. During a boom its role is to satisfy the extra demand. During recession the oil companies may put the burden of reductions in demand totally on OPEC. Further, they may move demand, at the margin, from one country to another, in order to snatch a few cents through discount pricing.

Unlike many raw materials, oil has not suffered much in the past from substitution. In fact it has been used as a substitute for many raw materials. However, the price increase by OPEC not only provides incentives

1. Note again that interruption need not necessarily occur, but the threat of cessation is enough to increase risks.

2. Supply-induced fluctuation is not created by trade.

3. See the additional note (1) at the end of next chapter.

4. See footnote (1) at the bottom of p.42.

for search for oil outside OPEC areas; it also provides incentives for substitution of existing non-oil energy resources and development of technology for new sources. Similarly, it gives impetus to economy in the use of energy.

OPEC has so far proved strong. In the future it may also remain stable. Yet, one cannot be certain about its stability, so it involves risks. In fact, the extreme price inelasticity of demand for crude oil could act as a double-edged sword for the stability of OPEC. To explain, the demand for crude oil is extremely price inelastic not only because demand for oil products is price inelastic but also, and more importantly, because the margin between the price of crude oil and those of oil products is very large. Beside this, the margin changes less than proportionally, following a price rise by OPEC. The extremely low price inelasticity of demand meanwhile implies enormous price flexibility.¹ In a strong market, a slight excess demand, resulting from an increase in demand or reductions in supply, allows substantial increase in the price of crude without large reductions in sale. In a weak market, e.g. during world recession, the intention of any member of OPEC to sustain, or increase, supply beyond what is demanded at the going price, may lead to a substantial reduction in that price. It may even lead to the collapse of OPEC if the other members reacted in the same way.

Despite the fact that OPEC has acted like an imperfect cartel, it has fixed price without an official quota allocation. It has been successful because the increases in the revenues due to the sudden increases in the price of oil have been substantial, and the market has been strong over most of

1. This term is defined as the reciprocal of price elasticity, by G. Hallett (1968), pp. 67-70.

the period. Indeed quota allocation has not become necessary even when the market was weak. Some members reduced output voluntarily for conservation purposes, or large producers chose to act like a buffer-stock, i.e. to take the main burden of fluctuation in demand. It is probable that OPEC will also remain stable in the future because of the combination of the following factors: significant common interest of the members; the very likely strength of the oil market; and the structural attributes of OPEC. OPEC consists of three main groups in terms of reserve and production capacity per head of population: large, medium and small. The first group, mainly Saudi Arabia, has the capacity to undermine solidarity but does not need extra revenues. The second group, e.g. Iran and Venezuela, have conservation tendencies. The third group has a substantial need for revenues, but a small capacity to expand output.

None the less, the solidarity of OPEC could be undermined for economic or political reasons, some of which can be predicted. For example, in a weak market a combination of needs for extra revenues and excess capacity in the second and third country group could endanger the solidarity of OPEC if quota allocation became necessary. Above all, solidarity could be undermined by differences in the political interests of the members, possible internal political changes, or external political or military pressures.

2.3.2 Oil revenues and the acceleration of development

In this section we will clarify our own position against Kalecki on the physical problems of acceleration. The political problems will be dealt with in the next section. At any rate, let us first mention a few words about the way oil is linked to the economy and the crucial role of the Government in acceleration.

Oil does not tend to promote the development of the non-oil sectors automatically; its main impetus emerges from utilisation of the enormous financial resources accruing to the Government. Acceleration of diversification and achievement of the development objectives, outlined earlier, depend on the political will of a Government, and on the availability of physical, i.e. non-financial, resources. Forward and backward linkages¹ of oil with the rest of the economy are small; and its labour intensity is low. In comparison, its 'fiscal linkages'² are immense, and they are collected entirely by the Central Government. Fiscal linkages include mainly oil revenues and partly foreign credits. Oil provides the Government with credit-worthiness in the international financial market.

The Government acts as an intermediary between the oil sector and the rest of the economy. Since the size of the oil revenues is large in relation to GNP, the role of the central Government in economic activities becomes extremely critical. Economic decisions are made mostly by the Government; a sort of 'induced' pattern of socio-economic development emerges.³ To distinguish oil exporting countries from socialist countries we may use 'governmentalism' instead of the term 'induced' pattern of development.

Assume for the moment that the Government has the political will. We may modify now Kalecki's view on the role of trade in the acceleration

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1. Hirschman (1958), p. 100. Forward linkages arise from the provision of oil for use as input in the other sectors of the economy. Backward linkages induce expansion of other sectors of the economy through demand for domestic goods used as input in the oil sector.
 2. Fiscal linkages include those elements which enable the state to contribute to growth process. See Levin (1960), pp. 1-2.
 3. Hoselitz (1955) uses this term for socialist countries.

of growth and the mitigation of inflation as follows. Firstly, the role of imports in the removal of bottlenecks is exaggerated in Kalecki's argument. Despite availability of foreign exchange, the rate of growth of non-oil output may be limited, at least during the period of one or two plans, by: the physical capacity to import; the ceiling on the rate of growth of non-traded 'supply-determined' goods; and skilled labour. In the long-run, it is limited by the supply of skilled labour,¹ and in some countries by the supply of labour in general.

The physical capacity to import is supply-determined because of the lack of the necessary infrastructure. The infrastructure includes port facilities, transport facilities and distributional network. In addition, some 'supply-determined' commodities, vital to growth of other sectors, or commodities, are among non-tradeable goods. Their shortages cannot be remedied by imports. Electricity to some extent, water, and some construction materials are examples of those industries in the case of Iran. Above all, the shortage of skilled labour and training facilities cannot be fully overcome by trade. Obviously, some skilled labour can be imported. This, however, may add further pressure to the supply of necessities and housing. It may also create some social friction and problems related to deportation of expatriates in the future.

The marginal propensity to import is an increasing function of the rate of growth of domestic expenditures though not entirely due to the reasons given by Kalecki. So is the ratio of the additional imports, necessary for growth of non-oil output, to the increase in the non-oil

1. Note that the political factor may be a significant limiting element even in the long run; but because of our assumption on the political will, we do not deal with it in this section.

output. Accordingly, those propensities will tend towards unity as the desired rates of growth in expenditures and non-oil output increase. Such tendencies are due not only to the limits on the rate of growth of domestic supply, but also to waste of imported materials.¹ Some imported materials can physically deteriorate in the ports because of delays in unloading caused ^{by} limited physical import capacity. Moreover, imported materials might be accumulated, inland, unused as a result of shortage of non-traded complementary elements of production, including labour, lack of organisational capacity, mismanagement, and irresponsible attitudes in the public sector.

Yet another kind of waste is spending on items which neither contribute to growth nor to the mitigation of inflation. Such are, for example, armaments and luxury goods used by the Government as we will explain in the following section.

Secondly, it is true that oil earnings ease shortages of foods which are supply-determined. However, the very easiness of these imports, accompanied by political reasons explained in the next section, may lead to the neglect of agriculture, development of which is difficult, and takes time. As a result growth may become lop-sided against agriculture; reliance on imported food may be intensified. This will contribute to an increase in the 'bargaining liability' of the country. Serious problems may arise, besides, in the area of food supply in the long-run when oil production and/or exports (i.e. oil earning from exports) taper off.

Thirdly, despite availability of foreign exchange, the aforementioned domestic shortages will make inflation unavoidable. The nature of inflation will be a mixture of 'demand pull' and 'cost-push'. In other words, there will be a gap, both in the goods market, between money income

1. Only the former factor was considered by Kalecki; see p. 38 of this thesis.

and aggregate supply; and in the factor market, between supply and demand for skilled labour as well as complementary factors of production. Consequently, inflation arises. If it is not checked a wage-price inflationary spiral will be created. If, however, an attempt is made to control inflation by fixing the price of necessities rather than by lowering the target rate of growth, it may lead to the weakening of 'decision-making inducements' for the expansion of production of necessities. Resources may be shifted to the sectors for which prices are not fixed. It may also lead to an outflow of investment funds.

Finally, the seriousness of the problems of acceleration depends, for a given rate of growth of investment, on the very pattern of allocation of oil revenues. Ample financial resources allow acceleration not only of investment outlays but also of consumption expenditures. There is, however, a trade-off between allocation of scarce physical and human resources to consumption and to investment. The same trade-off exists between the allocation of resources to productive investment and to non-productive investment. Productive investments are those which contribute to expansion of production capacity in one way or another. In this sense investments in economic infrastructure and in socio-economic structure are both productive. Non-productive investments include investment in luxury goods and services which are not used, whether as instruments of production or as articles of subsistence in the production of others. In short, even despite ample financial resources the prospects for the rate of growth in production capacity may be limited, cet. par., by growth in consumption, and in non-productive investment.

This last stage of the argument leads up to the critical role of the Government in the allocation of oil revenues, in other policies, and generally speaking in attainment of development objectives. Not only is

the organisational ability of the Government in decision-making important, but its 'will' is also crucial.

2.3.3 Oil, socio-political factors and development

Now, we may remove the assumption made earlier that the Government has the political will to accelerate diversification according to the development objectives. The Government may not necessarily show the will. In fact, while the increase in oil revenues, resulting mainly from the OPEC agreement, provides the Government with the means of accelerating development towards the achievement of the objectives we outlined in Chapter 1, it may reduce the will to do so. The Government may favour the interest of a minority power group rather than that of the general masses. Accordingly, provision of the latter's needs and development of agriculture may be neglected. The Government may favour consumption in the form of wages, salaries, and particularly military expenditures. It may prefer unproductive investment to productive investment and to expenditure on socio-economic infrastructure. These policies have two interrelated effects. Firstly, they may exacerbate the physical problems of acceleration, for the reasons given earlier, and thus affect the speed of diversification adversely. Secondly, they may affect the distribution of the benefits of growth and impede the achievement of the above-mentioned development objectives. Moreover, the wage policies, accompanied by a fixed exchange rate allowed by oil revenues and favoured by the power group, impair the development of non-oil exports. The eventual consequence of all those policies could be over-depletion of oil, waste of oil revenues, the loss of opportunity provided by oil, heavy dependence on imported goods and technology, and most of all, social disaster. In one sentence the socio-political obstacle could be the most serious long-run problem of diversification

and development. Why do such problematic consequences arise? What are the socio-political mechanisms involved?

The Government has its own preference in harmony or in conflict with the national interest and the aspirations of the general masses of ^{the} people. This is influenced by the nature of the Government, and it is related to the nature of the class structure which may in turn be influenced by oil. In other words, there is an interaction between the economic structure and the superstructure, i.e. socio-political structure during the process of development. Accordingly, we will make an attempt to postulate a socio-political framework within which economic development takes place in an oil economy. To our knowledge such an approach has rarely been used in the analysis of the economic development of those countries. Though we have benefited from Seers (1964, 1969, 1978) and Mahdavi (1970), who pioneered such an approach, our postulation is independent.

Before starting let us make two introductory comments. Firstly our formulation is based on the experience of a specific country, Iran, with a specific socio-political background, over a specific period i.e. 1962-78. However, it is put in general terms because it is also relevant, to a great extent, to other oil exporting countries at least over the same period. Secondly, though we set out a comprehensive socio-economic framework because of its importance for our argument, we are not going to examine empirically the socio-political aspects for reasons of space and the needs of our particular branch of study.

Oil production is the main economic activity in an oil exporting country. It leads to emergence of governmentalism as I explained earlier. To utilise oil revenues the Government could allocate them directly and/or

channel them through the private sector. It is more likely that the Government attempts to plan and channel the revenues mainly through the Government budget. This requires a large body of bureaucrats and technocrats. Because of centralisation, the Government machine is likely to be located mainly in the national and provincial capitals.

The Government dominates all groups in the economy, rather than being dependent on them. It may depend, for the bulk of its revenues, on oil revenues accruing from outside, not on domestic taxes. Hence, the Government might not seek the support of its citizens; it might even give more weight to external support.¹ In fact, it may not need citizens' votes; it could become extremely autocratic. In addition, the Government injects into the economy an amount equal to the difference between Government expenditure and taxes drawn from the economy i.e. non-oil taxes. The main social classes and groups will depend, to that extent, on the Government.

For the purposes of argument we distinguish four main classes ^{in the} /case of Iran: Governmental class, i.e. bureaucrats, employees of public industries, and contractors; capitalists, including industrialists, bankers and traders; urban workers; and others. This group includes peasants, unemployed workers in the urban and rural areas and 'working poor' i.e. those under-employed workers engaged in the so-called 'informal sector'.

The Governmental class consists of those who benefit from the Government budget directly. The Government allocates financial resources to current expenditure and investment outlays. First of all, the rapid increase of bureaucracy creates jobs for young men of different skills and

1. For this point see Mahdavi, op. cit.

knowledge. As a part of the state machine they have power to allocate, to themselves, high salaries. Secondly, the Government invests directly in some industries. These industries are likely to include, mainly, large-scale capital intensive industries, such as oil processing, petrochemicals and steel in which the private sector may be reluctant to invest. These industries are also skill intensive. Hence, the majority of employees in these industries will enjoy well-paid jobs. Thirdly, the Government investments in infrastructure and buildings create profit opportunities for a small number of contractors.

The 'consumption linkages' provided mainly by the Governmental class increase the opportunities for industrial capitalists, of import substitution mainly in luxury goods. Furthermore, the Government provides capitalists with means of finance and it may help them in their bargaining with foreign big business to obtain the necessary technology. Note that though ample funds may make big foreign firms unimportant in terms of finance, they still have bargaining power as suppliers of technology.

At any rate, import substitution in luxury goods implies expansion of industries with low levels of domestic value added and, in many cases, with high capital intensity. The skilled and semi-skilled workers employed in the industry, however, may enjoy relatively higher wages than their fellow-countrymen in the villages.

Large imports provide profit opportunities for traders, insurance companies and bankers. These activities also provide some jobs for bureaucrats, technocrats and skilled manpower.

The Government class, the capitalists and the workers engaged in the industrial sector and in the aforementioned services all contribute

to the maldistribution of income.

Oil revenues helps the Government to undertake land reform. This would defuse the power of landlords who are usually the only powerful group in a developing country. The Government bureaucracy may fill the power vacuum created by the land reform. Land reform in developing countries usually benefits the rich peasants more than other rural dwellers. Furthermore, as mentioned before, land reform may not succeed in expanding agricultural output quickly, unless it is accompanied by a more general agrarian reform.

The Government may not allocate enough funds to agriculture, which provides the main basic needs, directly or through loans. The need for its fast expansion is barely felt not only because imports of food are facilitated by oil revenues as mentioned before, but more importantly because the Government may well not be under pressure from the peasants who are politically almost powerless.

The Government may also affect, adversely, the incentive to invest in agriculture. The Government may be under pressure from the vocal city dwellers to limit the price of food. Large imports of food, obviously, would per se ease the inflationary pressure. However, if imports could not prevent increase in the prices of food the Government may, theoretically speaking, take further action in one of the following ways. It may subsidise consumption of main food items, whether domestically produced or imported, and leave the farm gate prices to go up; or it might subsidise only the imported items and fix the price of domestically produced ones. In fact, the latter case is more probable because the Government makes the producers share the burden of the subsidy. The peasants are not powerful enough to resist. Consequently, the internal terms of trade will, ceteris paribus, turn against agricultural producers.

One may classify the above-mentioned classes into two general categories: supporters and antagonists. The former include the governmental group, capitalists, and to some extent the workers employed in these activities. Antagonists include ex-landlords, poor peasants, rural workers, poor city dwellers with no jobs, or no permanent job, as well as rural migrants and those involved in the informal sector. The ex-landlords may be provided with some opportunities in the industrial sector. Accordingly, they can join the supporters. Hence one may omit them from the list of potential antagonists. The antagonists do not benefit from oil revenues as much as the supporters. As a result, inequality between the two groups will widen over time.

The mechanism of an oil economy is such that to keep the economy going oil revenues have got to accelerate faster than the non-oil sector. The mechanism is similar to that postulated by Harrod and Domar; but here exports play the role that investment plays in the Harrod-Domar model.¹ The supporters can expand their activities and income as long as oil revenues grow faster than the non-oil sector. If they do so grow for a long time, they raise expectations in the sense that fast growth becomes, in the mind of the supporters, a norm. As soon as the oil revenues fail to grow rapidly, even the supporters will feel dissatisfied because their expectations are not fulfilled. Such an issue obviously creates difficulties for the objective of diversification under which the non-oil sector is to grow faster than the oil sector.

The main concern of the antagonists is secure, well-paid employment. As far as employment is concerned the issue is more complicated. Unemployment is a critical long-run problem for an oil economy. The growth of oil revenues has a positive as well as a negative effect on the growth of

1. For a detailed explanation see Seers (1964) and (1969).

employment. Through its fiscal effect and supply effect oil provides means of financing investment. In particular, fast growth in oil revenues provides jobs for unskilled labour, urban employed, and rural migrants, in the construction sector, which expands because of the fast growth in the incomes of the city dwellers and large Government investments. Yet the very availability of finance and foreign exchange also has some adverse effect on employment: the import intensity, which has a negative relationship with employment, will increase; and factor intensity will change in favour of capital.¹ One may guess that in the short run the positive effect of a sharp rise in oil revenues would exceed its negative effect; unemployment would decline. In fact even a labour shortage may appear due to a sudden boom. In the long run, however, the negative effect could outweigh the positive effect. Further, unemployment is, in an oil economy, accompanied by high wages and salaries for two reasons: shortage of skilled labour; and expectation and power of the vested interests concerned. We have already explained the former. Explanation of the latter is a part of the argument to which we will turn now.

Oil affects expectations, attitudes, incentives and the 'image of change' of both groups, protagonists and antagonists, but in different ways. The antagonists expect the Government to provide them out of the common wealth, oil revenues, with jobs and social services. The governmental group and other protagonists are, relatively speaking, secure in their jobs; none the less, they may try to allocate more of the 'oil rents' to themselves. They may claim higher wages, salaries, fringe benefits, and profit margins in cases relevant (e.g. contractors). Neither

1. See ibid. for details.

group has strong political control over allocation of the rent because the Government does not depend on taxes and people's votes. However, the governmental group enjoys some bureaucratic power; besides, they feel no responsibility as far as allocation is concerned, towards the public at large. Competition, among the governmental group, may arise from increasing claims on the rent. This may lead to a reduction of incentives to work and the appearance of a 'rentier' attitude.¹ In fact the degree to which the governmental group benefits may become an implicit criterion for allocation of the rents. The social preference would be disregarded. To use Hirschman's terminology, an 'ego-focussed image of change' rather than a 'group-focussed image of change' will prevail.² Moreover, the 'rentier' attitude usually causes corruption, to receive income without effort; and profiteering, through overpricing and speculation, to obtain quick and large gains for a minimum effort and risks. Though such attitudes may prevail in many developing countries, the situation is particularly bad in oil economies.

In contrast with the protagonists, the antagonists have little power: peasants are controlled by the Government hierarchy; and unemployed and poor workers cannot easily organise themselves. In any case, there is no effective political institution through which they could raise their voice. Instead of fulfilling the expectation of the antagonist, the Government may take repressive measures. In fact, the authorities may tend towards militarism to maintain, or increase, their power. This requires large military expenditure. As far as political power is concerned, not only is military expenditure a means of internal oppression, but it also reinforces

1. For this point see Mahdavi, op. cit.

2. See Hirschman (1958), pp. 11-24.

the external links to the west. Large purchases of armaments from the industrial countries make a significant contribution to the 'recycling of oil money' which is crucially important to those countries. However, concerning the impacts of such expenditure on development, it is the worst type of public consumption. In fact, it is a waste - at least beyond a certain level. It satisfies nobody's demand. Moreover, like other unproductive expenditures it exacerbates the problems of acceleration to the extent that it attracts human resources, particularly skilled manpower, and other resources necessary for growth.

Widening of inequality in favour of the protagonists, waste of the common wealth by the governmental group, and expansion of military expenditures rather than social services - all these may frustrate the antagonists who witness waste of oil revenues rather than fulfilment of their expectations.

Inflationary pressure added to the foregoing process may lead to a wage-price spiral. Inflation puts more pressure on the antagonists than on the protagonists. Conflicts may arise between both groups with the inevitable social upheaval.

In particular, if the growth in oil revenues is sluggish, or even worse if they decline, stagnation may also accompany inflation. Inflation increases public expenditure in current terms; Government revenues are not significantly influenced by inflation if the exchange rate is fixed. This is because oil revenues constitute the bulk of Government revenues; and each unit of foreign currency is fixed in terms of local currency. Deficit financing becomes unavoidable. This in turn tends to put pressure on the balance of payments, and to contribute to inflation. Further, the conflict between the antagonists and the protagonists tends to create

uncertainty about the future. The private sector becomes reluctant to invest. As a result unemployment will increase, and social upheaval will be aggravated.

If the exchange rate is fixed, rising wages also tend to have eventual unfavourable consequences for diversification. First of all, the availability of foreign exchange received through export of oil facilitates a fixed exchange rate. The capitalist, as well as the city dwellers, has a strong interest in a fixed exchange rate. The fixed rate of exchange makes imports of consumer goods, capital goods, and raw materials cheaper than otherwise. Imports being extraordinarily large as compared with non-oil exports, the vested interests of those who benefit from cheap imports outweigh those of exporters. The fixed exchange rate, accompanied by inflation, discriminates, ceteris paribus, against domestic production and non-oil exports.

To summarise and conclude this chapter, the existing body of literature does not fully explain the case of an oil economy. We developed and modified the Kalecki theory as a theoretical framework for the study of the economy of Iran. Accordingly, it was argued that while oil has some special advantages for development it also involves some problems, the most important of which is its exhaustibility. The OPEC agreement increases the means to the acceleration of development and diversification to prepare for the time of exhaustion. None the less, it also increases the risks of concentration in oil, and adds to them the risk of breakdown of OPEC. Moreover, the acceleration of diversification is, despite availability of foreign exchange, limited by some structural factors, physical and institutional, which put a ceiling on the rate of growth of non-oil GDP. In addition, the socio-political and institutional factors may exacerbate

the physical obstacles. The Government has a critical role to play in development. While the increase in the oil revenues provides the means to the acceleration of development and diversification, it may reduce the political 'will' to do so. Not only may Government policies impede the speed of diversification and promotion of non-oil exports, but they may also hinder the direction of development towards the achievement of the objectives we outlined in Chapter 1. In other words, oil may contribute mainly to the maintenance, or increase, of the power of the governmental class, rather than to long-run objectives of development and diversification. The conflict between 'antagonist' and supporter may in the end result in collapse of the socio-political system.

The consequences of those policies are firstly, disappearance of the surplus in the balance of trade resulting from the waste of oil revenues. Secondly, the loss of financial self-reliance and the increase in dependence on imports of necessities affect bargaining power adversely, as will be explained in the next chapter. Thirdly, unless oil prices keep on rising continuously, the need for funds may induce the Government to increase the rate of depletion of oil resources. In a favourable world market for oil a rise in the volume of export may be attainable without decreasing the price. In an unfavourable market, the Government may even tend to cheat other OPEC members by price cutting. This will threaten the solidarity of OPEC.

Most of all, the long-run implication is that the exhaustion of oil together with the loss of the opportunity provided by it will create a serious economic and social problem for an oil economy. As far as the long-run is concerned, it seems that an oil economy is faced with a basic contradiction regarding the diversification of its output structure and export. Generally speaking, the economy has got to diversify its output

structure out of oil because oil is exhaustible. Nevertheless, as long as ample oil revenues are available, the need for diversification is hardly felt; and the socio-political structure, affected by the very availability of oil, impedes achievement of that long-run goal. When oil runs out and the need for alternatives is strongly felt, the economy lacks the opportunity for rapid expansion of output. Similarly, the export sector is faced with the same type of contradiction. Development of non-oil exports requires, among other things, a favourable exchange rate. None the less, as long as oil revenues are attainable, the exchange rate is determined by the oil sector in a manner which is unfavourable to non-oil exports. The socio-political factors again favour the rate so determined. The adjustment of the rate after exhaustion of oil, or even when oil revenues reach their peak, may be too late to bring about sufficient expansion of non-oil exports in time because of the short-run supply inelasticities.

Chapter 3

Diversification

3.1 Introduction

In the introductory chapter we mentioned that the crucial problem before an oil economy is to diversify the economy out of oil before the time of exhaustion. It was suggested that oil itself is to be utilised, by an optimal oil policy, price and depletion policy, to accelerate diversification; that the speed of diversification and the speed of depletion were inter-related; that there were some interrelations between diversification, development, self-reliance, bargaining power, and the ability to take risks. In the previous chapters we outlined the characteristics of oil, its advantages and disadvantages for development, and the socio-economic obstacles to acceleration of diversification. Here we aim at the clarification of the concepts of diversification, risks, bargaining power and self-reliance.

The literature on diversification suffers from some shortcomings in general; in particular, it is not suitably developed to be employed in the case of oil. To start with, diversification is regarded only as a remedy for risk reduction in foreign trade; it has rarely been applied to cases where there is certainty that the export commodity is exhaustible. Secondly, even the treatment of risk has not been fully considered: only one type of risk, fluctuation in export earnings, has received attention. Little account has been taken of the political risks of cessation of trade¹ which are not only particularly critical in the case of oil, but are important in general as shown by the recent experience of Iran. Understandably, the literature has not dealt with the specific risks related to oil and OPEC which is a new phenomenon. Thirdly, there are even some fallacies prevailing about the merits of export diversification in reducing fluctuation. Fourthly, and more

1. See the previous chapter, p.43 , for definition and references.

importantly, little attention has been paid to the relation between the political risk and bargaining power in international trade, and thus the terms of trade. Finally, diversification has often been used in its narrow static sense, as will be explained shortly.

For the purposes of this argument we may outline the objectives of diversification in an oil economy in their order of importance as follows:

i) to develop alternatives for oil, as a source of income and foreign exchange to prepare for the time of exhaustion; ii) to increase, or maintain, bargaining power, hence the terms of trade, by enhancing the ability to take the political risks of cessation of trade, so backing up OPEC price agreement; iii) and to reduce the risks of substitution and breakdown of OPEC for that reason; iv) to provide employment as well as linkages with the other sectors.

The sharp departure of our approach from that of the literature is marked first of all by our conceiving diversification primarily as a means of increasing returns and by a different approach to reduction of risk. Oil is exhaustible; therefore action should be taken to expand income and foreign exchange outside oil beyond what they would have otherwise been by the time of exhaustion. However, the oil sector itself should be used to accelerate diversification. The speed of depletion should be determined by the speed by which diversification can be achieved. In general 'oil policy' and development policy are to be inter-related. Secondly, diversification is, meanwhile, regarded as a hedge against the political risks of cessation of trade, and the specific risks involved in oil but not necessarily as a remedy to the fluctuation in export earnings. Thirdly, and more significantly, it will be argued that the political risks of trade and terms of trade are inversely related because of the impacts of those risks on the bargaining power. In this context, while diversification reduces the risks, at the same time it increases the return from trade to the

economy. Finally, diversification will be used as a dynamic concept, and it will be given the wide, rather than the narrow, meaning. Moreover, we will regard neither trade nor diversification as an end in itself: the end is development; and those are both means to that end.

To pursue the argument, after outlining some general notes about the literature on the concept of diversification in section (2), we will offer in section (3) some complementary notes to our own conception of the term. Section (4) discusses the relation between oil policy, particularly depletion, and speed of diversification. In section (5), by drawing an analogy between security portfolio and trade, the risk dimension will be taken up. It will be shown that the Government has got to be a risk averter because of the significance of oil in the economy; and irrespective of its exhaustibility and despite its high return, some degree of diversification is required to avoid the disastrous risks of heavy concentration in oil; and export diversification alone cannot take care of all those risks.

Section (6) will deal exclusively with the adverse relation between the political risks of cessation of trade and bargaining power in an oil economy. This involves: clarification of the link between the political risks (thus bargaining power) and the degree of 'net dependence' on trade; identification of the elements of dependence, of net dependence, and of 'self-reliance', and distinction of this term from self-sufficiency. It will be added that to reduce those risks and increase self-reliance, Iran may take two types of measures: short-run, and long-run. The former consists of keeping beyond normal requirements: foreign exchange reserves; stock of basic consumer items; and the supply of strategic commodities and spare parts. The latter features diversification which should include some degree of 'inward-looking' development in basic needs, but not necessarily in all commodities.

3.2 General Notes on the Literature

Generally speaking, the literature has assigned limited objectives to diversification, and defined it in a narrow sense. Initially, diversification was regarded as a remedy for the instability in export earnings. The elements of this argument, based on some empirical evidence, are as follows.¹ Firstly, the instability involves heavy costs to developing countries through its effects on the key economic variables of those countries. These variables are seen as investments, imports, jobs, Government revenues, and/or private income, depending on the case. Consequently, growth of GNP, it is maintained, will be retarded. Secondly, among the factors said to give rise to the instability are, as mentioned before,² concentration in exports of one or a few raw materials and the geographical concentration of market for exports. Thirdly, the message was: commodity and geographical diversification of exports decrease the instability.

Though A. MacBean³ cast some doubt on all elements of the above argument, he was strongly challenged by Maizels and others,⁴ and the issue is still hung subject to controversy in the literature.⁵

Apart from the weaknesses outlined in the introduction, the empirical literature lacked a theoretical framework to evaluate the effect of diversification on reducing the instability. Though Brainard and Cooper (1968) shed some light on some of the conditions under which diversification can reduce instability,⁶ their treatment of the issue still fails to remove all those

1. See the additional note at the end of this chapter.

2. See p. 44.

3. See MacBean (1966), in particular Chap. 3, and pp. 339-45.

4. See the additional note at the end of this chapter.

5. See ibid.

6. For a few relevant notes see also Corden (1974), pp. 318-22.

weaknesses. In particular, they disregard the use of diversification as a means to increase export earnings.

More recently UNCTAD has looked at diversification in the latter context in two commodity cases: narcotic crops subject to supply restriction in some countries due to legal obligation; and 'problem commodities'.¹ These are commodities facing an unfavourable situation as a result either of their actual, or potential, surplus on the world market; or of their shrinking market due to competition from synthetics, e.g. cotton.² Nevertheless, neither case resembles that of oil which has different characteristics as were outlined in the previous chapter.

In both the above commodity cases diversification implies contraction of the volume and value of the commodities concerned. Indeed, diversification is usually given a narrow meaning; and its relation with economic development is not made clear. In its narrow sense diversification has two features: it is referred to as export diversification, and it involves supply contraction. To elucidate, for the purposes of this argument the concerns of diversification may, generally speaking, be classified into: diversification of the structure of the national products; and trade diversification.³ The former group may be subdivided into: sectoral diversification, diversification of the base of income and products derived from various sectors of an economy; diversification into production for export and for the home market; and diversification of the composition of commodities produced within one sector of the economy. An example of this case is the diversifi-

1. See UNCTAD, Doc. No. TD/119, p. 9.

2. For the list of problem commodities see UNCTAD, op. cit., p. 3, Table 1. See also UNCTAD, Doc. No. TD/B/348, TD/B/C1/114, p. i and TD/B/C1/Cons14K2 for the problems related to the 'problem commodities'.

3. One may also mention regional diversification. This means dispersion of industries or other economic activities over various geographical regions, or within an area, of an economy.

cation of the industrial sector into production of capital goods, intermediate goods and consumer goods.¹ Trade diversification in turn may be, in our view, grouped into: i) diversification of the composition of trade, either exports, export diversification; or imports, import substitution; and ii) diversification of the market for exports and/or the sources of supply of imports - geographical diversification.

In a narrow sense, then, diversification implies that production of a commodity export is contracted, and substituted by another in the basket of exports. In this sense diversification does not seem to involve expansion of GNP, of the total value of exports, and of production for the home market - all of which received a great emphasis in our own conception of diversification.

In one instance UNCTAD defined diversification as: 'widening or reducing the degree of concentration in the range of commodities or products, exported or not, on which a given country depends for its income'.² Diversification was therefore allotted a wider meaning than in the preceding literature. A wider meaning in the sense that export diversification was regarded as a part of general diversification of the production structure. None the less, it was not established how a change in the degree of concentration was to take place: by substitution of one commodity for another, or by expansion of GNP outside the existing export sector? Neither was it clear whether diversification was per se an end, or simply a means to development.

1. See Sutcliffe (1972), pp. 174-5.

2. See Doc. No. TD/B/348, p. 2.

3.3 Our Conception of Diversification: the Case of Oil

By contrast, not only does our own conception of diversification meet those shortcomings but it is also employed in a dynamic sense. To repeat, we proposed previously that activities outside the oil sector should be accelerated, through export expansion and import substitution, according to the development objectives outlined in Chapter 1. However, we added that the economy is to go 'into' oil for a while with the intention of going 'out of' it by utilising the oil revenues. As a result, ultimately the degree of concentration in oil in terms of income and export earnings is to decline, not merely because of depletion of oil, but more crucially due to expansion of non-oil GDP. Accordingly, first of all, diversification is used in the wide sense. Export diversification should be regarded only as a part of expansion of non-oil output which is vital for development.

Secondly, expansion of output is to take place according to the development objectives, the key element of which is, as we have suggested in Chapter 1, to improve the well-being of the nation. The end is development, and the policies for diversification are necessarily interrelated with those of development. On the one hand diversification is the result of development; on the other hand it functions as a means to further development. In fact, neither foreign trade nor diversification should be per se regarded as an ultimate aim. To the extent that foreign trade furthers development through its 'supply effect', it is a means to that end. Similarly, diversification is to serve that end. How? Diversification, as we defined it, is to serve development in two main ways: by increasing non-oil output beyond what it would otherwise be; and by enhancing the flexibility in the production structure, the ability to take external risks related to trade in oil and

other commodities, thus bargaining power and the terms of trade. These are explained below. Here we mention that the increase in flexibility also increases the capacity to respond to changes in the demand and supply conditions in the international market, and in technology. Accordingly it facilitates taking new opportunities in the international (and internal) market to increase output and income.

Thirdly, we apply the concept of diversification in a dynamic sense: the economy is to go into oil first with the intention of going out of it by using the earned revenues for acceleration of development outside the oil sector. Before explaining how this is to take place, we should explain that such a conception is related to particular characteristics of oil, hence to particular need for diversification in an oil economy. To remind the reader: oil is exhaustible; its direct employment effect and production linkages are few; concentration in oil involves some specific uncertainties in addition to general uncertainties related to trade. However, it enjoys an extremely strong market.¹

Now, one may ask why an oil economy should diversify at all. What is wrong with specialising in a commodity which earns a high return with minute cost? To answer this question, let us ignore for the moment the existence of the OPEC price agreement. In such a situation there are in our view three arguments for diversification in descending order of importance. To start with, the Government has got to take action through diversification to prepare for the inevitable time of exhaustion. In other words, the need for diversification is related primarily to the certainty of oil earnings approaching zero in the near future, rather than to the uncertainties involved in trade in oil.

1. See pp. 41-42.

Objection could be made against the view that the Government should take deliberate action to diversify before the time of exhaustion. The economy is to specialise, the objection might run, in oil now; and when the exhaustion is reached, the price signal will act and alternative sources of export earnings and income will be developed. The counter argument is clear. The prices would signal too late, and the economy would have little flexibility and too short a time to respond. If the country has not been able to develop sufficient alternatives in more than half a century, how could it do so in just a brief period?

Even if one assumes, quite wrongly, that the oil reserves last for ever and that there is a certainty over the future export earnings, there is an additional argument for diversification. Diversification is needed to provide employment and linkages with the other sectors. A small oil Sheikdom can perhaps afford being a 'client State', i.e. selling oil abroad and importing domestic requirements. She can afford it because unemployment may not be a major problem with the population being small in relation to oil exports. The case of a large and populated oil economy is different, especially because providing employment per se is to figure among the development objectives.¹ After all, taking a positive Government rate of time preference for granted, why should not an oil economy, even a small one, make use of her oil revenues to further her development?

Since the assumption on the absence of uncertainty is not correct, yet another argument for diversification lies, as we examine later, in its possible capacity to reduce the risks, namely substitution, and the political risks of cessation of trade and, under certain strict conditions, fluctuation in the export earnings.

1. See pp. 3-4.

Now let us explain the process of going into oil, which as we shall shortly see involves consideration of the OPEC agreement. Diversification requires, among other things, financial resources. While in the case of problem commodities the question of financing diversification remains to be resolved, in the case of oil the export sector itself well provides those resources. Accordingly, an oil economy should take advantage of the strength of market for oil. It should intentionally go 'into' oil so as to utilise oil revenues for diversification. For the sake of this argument we may distinguish three ways of going into oil as follows. One way is to be a price taker but take advantage of the high income elasticity of demand for oil by expanding the volume of exports, i.e. raise the rate of depletion. This is however not only limited, for given reserves, by the capacity of production, but it also may keep the price low as it did over 1955-1970. Particularly, if all oil exporting countries, or a large one, follow this line, the consequent adverse effect on the price could be substantial because the demand for oil is price inelastic¹.

Another way is to try to increase the 'return value' per barrel through processing. Such a method, however, may in fact lead to a loss, compared with exporting crude at OPEC price,² because the investment costs are high and the sale of oil products abroad involves some problems. The marketing of oil products is under heavy control of the 'majors'. Oil products are, usually, subject to more import barriers than crude oil in the importing countries. Above all, there is once again a fallacy of composition: if all the exporting countries pursue the same policy, it might lead to price competition among them, unless they harmonise their sale policies under a

1. See p. 45 for details.

2. In a sense it leads to a negative value added.

collective agreement. Such an agreement which may involve supply restriction is, however, more difficult to reach and observe than an agreement on the price of the crude. It is more difficult because the storage costs of oil products are high whereas crude oil involves no storage costs. Moreover, supply restriction in the case of oil products may involve loss of jobs, but this problem is minute in the case of crude which employs a negligible amount of workforce. This leads us to the next method.

The third way to go into oil is to take advantage of the price inelasticity of demand for crude oil and raise the price. This becomes possible, as has happened, through a collective OPEC price agreement which improves the bargaining power of the member countries, and thereby their terms of trade. Nevertheless, as explained earlier, while the OPEC agreement increases export earnings, it also raises the risks of trade in oil substantially.¹ Accordingly, though still the aim of diversification is primarily to prepare for the time of exhaustion, the risk dimension therein gains further weight. It does so not only because the risks are per se undesirable, more cogently because at least one type of risk, i.e. the political risk of cessation of trade affects bargaining power. The dynamic aspects of the bargaining power appear crucial to OPEC, and to an OPEC country, recognising that the price is not to be raised once for all. Rather, it is the terms of trade which are to be maintained, or improved to maximise the long-run foreign exchange receipts. The imported inflation, partly caused by the initial rise in the price of oil, should be compensated for by further price increases. The bargaining power affects the terms of trade, and thereby contributes, among other things, to the availability of export earnings necessary for acceleration of development of the alternatives. To that extent, bargaining power should be considered as an important secondary objective of diversification. Other objectives are as outlined earlier.

1. See pp. 43-46.

3.4 Oil Policy and Diversification

The oil policy of the Shah's regime was to aim at a relatively high price within OPEC, but sell as much as possible at the going price and spend the revenues rapidly.¹ Our main point in this section is that the rate of depletion should have been linked with the speed of diversification, i.e. it should have been limited by the feasible pace of growth of non-oil GDP. We will pursue this argument by diverting from the basic theory of exhaustible resources.

The foundation of the traditional theory of exhaustible resources is that under a constant extraction cost and perfect certainty about the future, the owner of a mine is indifferent, in the margin, between producing now or leaving the minerals in the ground if the net revenue per unit² (R) is expected to rise at a rate (α) equal to the discount rate (T). T is taken as identified with the rate of interest (r) which is regarded as the common rate of return on various assets; and it is assumed that the objective of the owner is to maximise the present discounted value of the output of the mine.³ Accordingly, the rate of depletion depends on the present price (p_0), expected future price, and T . The theory is under continuous development in the literature and we do not intend to go into its details. It is essential, nevertheless, to mention that it is always hard to predict price, as the theory requires. More significantly, the theory which is initially formulated for firms, is not really relevant to the case of Iran as an OPEC country. Here, p_0 is not determined either in a competitive market, or by a pure monopolist. It is fixed by OPEC and influenced

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1. According to the text of the 1973 agreement with the consortium, exports would reach their peak in 1984 and the exhaustion time would arrive around 1990 (see Table A.3.3). Though the agreement was signed before the price rise, the regime's policy was to utilise the existing capacity to the full even after the rise.
 2. The difference between price and marginal cost under perfect competition, and the difference between marginal revenues and marginal cost under monopoly.
 3. See Peterson (1977), for a survey of the literature on exhaustible resources. For an early treatment of the subject see Hotelling (1931); and for a non-mathematical exposition see Solow (1974).

by bargaining power, as mentioned earlier; price and depletion policy are interrelated; the present price and output affect future prices and costs; and the discount rate diverges from the private rate of discount being affected by the attainable growth of non-oil GDP.

Being a large producer, Iran has some power to influence the price policy of OPEC. What line should she take? Should she be a 'price snatcher' or 'price sticker'?¹ A price snatcher is one who tries to derive as much revenue as possible during the 'closed period', the time necessary for the rivals to enter the market. The price sticker is one who is also interested in security of revenues in the 'open period' when rivals enter the market and substitutes are developed. In our view Iran is justified in being a price snatcher. One argument against such a policy is that it may involve a negative intertemporal trade-off; the increase in current gains may inflict losses in the open period by raising the long-run price elasticity of demand for crude oil. It may accentuate risks of development of substitutes for the reasons presented in Chapter 2.² There are two points however to mention in those respects. First of all, the risk of development of substitutes exists even when price is low; the increase in the price only raises the risk. Secondly, and more importantly, considering the life of the proven reserves of oil in Iran and the potential length of the closed period in oil, that policy seems justifiable. The life of the proven reserves obviously depends on the depletion policy. Taking the ratio of 'proven' reserves, to production however rough the estimates may be, before the price-rise of 1973, the oil resources would dry out in about 37 years.³ The length of the 'closed' period

1. We borrowed these terms from Hicks (1954).

2. See pp. 44-45.

3. The proven reserves were about 60 billion barrels against a production level of about 180 million barrels a year. See OECD Energy prospects, 1974, Vol. 11, Table 5 F-1.

seems to be quite long in the oil industry, because of various technological and development lags between the rise in the price of OPEC oil and development of substitutes. If we take ^{the} 'closed' period as identical to a 'very long run' in the Marshallian sense during which techniques of production are developed to substitute new sources of energy for oil, the duration of the period may exceed 20 years. That period includes the necessary time for R & D and establishing the capacity of production. The length of the 'long-run' period over which the capacity of production in non-OPEC oil and existing sources of substitute can be expanded, without a change in the technology, is also considerable, about 10 years.¹

Now, so far we have assumed implicitly that aiming at a high price does not involve output restriction. In practice, however, to attain a high price some restriction of output may be required for such a large producing country as Iran, even if the Government does not intend conservation. This will prolong the life of the reserves well into the open period. Then the risks become more important, and since the Government is to be a risk averter, for the reasons set out in the next section, the economy has got to insure itself against the risk. The typical answer in such a case is to allow for the risk by increasing the discount rate and thus raising the rate of depletion. It has nevertheless been shown that such a solution may result in over-depletion of oil resources.² Moreover, the increase in the depletion rate could conflict ^{the} with price policy. Another method is to moderate the risk by linking the price policy with the costs of substitutes. Even then the risk is not removed because taxation and protection policy of the consumer countries could still provide incentives for development of substitutes. Anyway, we believe that diversifi-

1. See Parra (1975). For example, construction of nuclear plants takes about 10 years, and in the case of North-Sea oil the time lag between the beginning of exploration and the first commercial flow of oil was also about 10 years. (See ibid., pp. 2-3.)

2. See Heal (1975).

cation, being primarily necessary to prepare for the time of exhaustion, will also reduce the risks of dependence on oil in the closed period. Furthermore, in spite of its risks, conservation has indeed some advantages over increasing the depletion rate, as we will shortly explain.

There are two main reasons for the divergence of the Government's discount rate from that of the private oil companies: impacts of present rate of oil production on future revenues and costs; and the significance of non-economic factors in the case of the Government. To begin with, there is an upper limit beyond which expansion of output involves unacceptable loss of revenues in the future; and the opportunity lost in that sense may be regarded as a form of 'user cost'. That upper limit in turn is affected by two forms of user cost: the technical full capacity user cost; and the user cost of loss of associated gas. The former is the loss of ultimate recoverable reserves where production exceeds the maximum efficient rate (MER).¹ Oil companies would produce beyond that limit in an OPEC country, because they were subject to risk of nationalisation for each barrel left in the ground. So they were not much concerned about the future of the reservoir, and discounted for that risk by increasing the depletion rate. Such a risk is irrelevant to the Government of a producing country. Indeed, the Governments concerned are aware of such increasing marginal user cost.²

The oil companies hardly care about the loss of associated gas, the bulk of which is flared; for Iran the relevant figure was about 58 per cent as late as 1974.³ More importantly, Table 3.1 suggests that the marginal

1. See Davidson (1963), and Kuller & Gumming (1974).

2. In 1968, OPEC requested the oil companies to provide the producing countries with the information about the technical capacity of the wells. (See OPEC, A Pro-Forma Regulation for Conservation of Petroleum Resources, Vienna, 1968.) Libya instructed the oil companies to reduce the production ceiling for technical reasons in 1971, and Abu Dhabi did so in 1975. (See MEES, 3 Oct. 1973, p. 1.) See also Yamani (1975a).

3. MEES, No. 16, Feb. 1975.

loss of gas, on the basis of annual figures,¹ increases with the increase in growth rate of production and vice-versa. Though no figures on MER are available, it seems that in 1970-71 and 1973 there were some pressures on the production capacity beyond MER. In these years the marginal losses of gas were greater than the average, particularly in the last year, as is suggested by Table 3.1.

Table 3.1

Marginal loss of gas per unit of oil production in Iran, 1967-73

	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>
Volume of oil output (tons)	129.2	141.8	168.1	191.3	227	251.9	293.1
Rate of increase in oil output	22.8	4.7	18.5	13.8	18.7	10.5	16.4
Average associated gas produced with each tonne of oil (cu.m.)	164.6	160.3	159.1	160.9	162.8	151.6	168.4
Gas produced for the marginal unit ¹ (cu.m.)		113.6	153.1	173.5	173.1	45.9	268.3

1. The extra volume of gas produced divided by the extra units of oil extracted in each year.

Sources: Based on B.P. Statistical Review of the World Oil Industry, 1974, p. 18
Arab Oil and Gas Directory, The Arab Petroleum Research Centre, 1974, p. 137; and
the supplement to MEES, 16 Feb. 1975.

Table 3.2

Estimation of marginal user cost of loss of gas in Iran in 1971 and 1973

	<u>1971</u>	<u>1973</u>
1. Marginal amount of loss on each barrel ¹ (cu.m.)	23.6	36.6
2. Price of each 1000 cu.m. (U.S. cents)	642.7	1044.3
3. Marginal user cost of loss of gas in U.S. cents (1 x 2): 1000	15.2	39.7
4. Gov. take on each barrel (U.S. cents)	1019 ²	117 ³ -305 ⁴
5. Marginal user cost as a % of Gov. take	14.9	34 - 13

1. Each tonne of oil is equivalent to 7.33 barrels.

2. 1st Jan. 3. Early Sept. 4. End Oct.

Source: Rows 1,2: Table 3.1 and Arab Oil and Gas Directory, op. cit., p. 72;
Row 4: P.I.W., 31 Dec. 1975, p. 3.

1. Note that because of lack of daily data on output of gas and oil the annual data are employed.

To evaluate the marginal user cost of loss of gas, we chose the current export price of gas to USSR as a rough measure because there is no future price available for gas. On the basis of Table 3.2 the marginal user cost is substantial; it was almost as high as the average cost of production, which was 10 to 20 cents in 1971, and about 2.5 times greater than that in 1973. It amounted, moreover, to a considerable proportion of Government take as shown in the same table.

There are some signs that even though after July 1973 the decisions on sale were taken by the Government, rather than oil companies, in fact the pressure on capacity mounted in late 1973 and early 1974 during the Arab embargo. The Shah's regime increased output from about 5.1 m. barrels a day in August 1973 to 6.3 in December and to 6.4 in March 1974.¹ Despite lack of need for oil revenues, an attempt was made to increase sales without considering the user costs. In fact, as we will show below, the regime depleted oil resources fast throughout the Fifth plan.

As far as the national interest is concerned, the rate of discount (T) may diverge from the private rate of discount, i.e. the rate of interest which is considered as a common rate of return on various assets. It is not possible to quantify the social discount rate, but assume that the Government represents the society. What rate is the Government to choose? In theory, the Government of Iran has three choices, in the margin, to invest oil assets (i.e. leaving in the ground); investing, in various forms, abroad; and investing in the domestic economy. Assuming that income earned is the only return on investment, and there is no uncertainty, T will be determined by the highest among the following rates: α , the rate of appreciation of value of each unit of oil; F , the

1. Petroleum Economist, March and Oct. 1975, the tables on 'crude oil production'.

rate of return on investment abroad; and D, the rate of return on domestic investment. In practice, for equal rates, each choice has some advantages and disadvantages. Regarding investment abroad, apart from market risks of fluctuation in returns, and risk of acceleration of inflation, such a choice involves marked political risks of expropriation by the host countries, mainly advanced nations; and it increases the bargaining liability of the investing country. Freezing the Iranian assets by the USA Government in 1979 suggests that such a risk is great indeed. By contrast, keeping oil in the ground or domestic investment do not involve such a political risk. Domestic investment, in particular, has some social benefits which other choices lack. These are job creation, cumulative impacts on development by provision of linkages and the multiplier effects. Hence, on balance, we may give more weight to domestic investment and in fact may rule out the choice of investment abroad unless for a temporary period. In the long run the choices decline to domestic investment and conservation of oil. Considering the advantages of the former over the latter, the rate of discount should be taken identical with D.¹ Unfortunately it is impossible to quantify, ex ante, the marginal rate of return, or social rate of return for various levels of investment. Nevertheless, assuming a simplified world of steady state growth and constant capital-output ratio, to each marginal rate of return corresponds a rate of growth in investment and non-oil output. There is a ceiling on acceleration of growth beyond which investment would lead to serious inflation and waste of oil revenues, as laid out in the previous chapter. In the short run many factors might limit the ceiling rate; in the long run the rate of growth in skilled labour is perhaps a good guide-line for choosing that rate. Note that if that rate implies conservation of oil, it means that the life of the oil resources will be prolonged; so the risk issue becomes more serious. None the less, conservation is preferable where there is certainty that oil

1. The rate of return on domestic investment.

revenues would be wasted in the forms of inflation.

In short, because the Government rate of discount should be smaller than that of oil companies, the rate of depletion should be smaller than that suggested by the traditional theories of exhaustible resources. Moreover, owing to the political risks of investment abroad, the long-run rate of depletion should be curbed by the feasible rate of growth of non-oil GDP.

3.5 The Risk Dimension, and Conditions for Diversification

The secondary aim of diversification is to reduce risks of concentration in production and exports of oil, particularly the political risk of cessation of trade which influences bargaining power and 'self-reliance' adversely. Let us deal with the merits and limits of export diversification in risk reduction in general, before arguing in particular that such diversification alone is not very effective in reducing the political risk of cessation of trade; and diversification in its wider sense is required.

Drawing an analogy between 'portfolio selection' and trade,¹ we have argued in the appendix (A.1) that: in an uncertain world a diversified trade portfolio is, under certain conditions, superior to an undiversified one; for example, in a simple two commodity exports case, X_1 and X_2 , it was shown that for an equal 'return' a diversified portfolio is better than concentration in say X_1 even if X_2 carries a greater risk than X_1 . Those conditions are mostly related to the assumptions upon which the E-V rule (Expected Return - Variance of Return) is built and partly to differences in the nature of trade portfolio and 'security portfolio'. They are, taking

1. Our analogy is based on Markowitz (1952, 1959); Tobin (1958, 1965); Arrow (1971), pp. 1-44 and pp. 90-120; Samuelson (1969), Feldstein (1969), Glustoff (1972); and Tsiang (1972).

the existence of uncertainty for granted, as follows: a) the Government in Iran, as an oil economy, cannot afford being a 'risk plunger', i.e. it is a risk averter, as far as trade in oil is concerned; b) diversification is the sole means, or the best means, of insuring against risks; c) sources of risks are independent, or negatively dependent; d) the points located on the efficient part of the 'Opportunity Locus'¹ are attainable, i.e. the country is able to diversify to arrive at a reasonable combination of E-V; e) benefits of diversification should be greater than its costs; the risk reduction should not lead to a level of sacrifice in terms of expected return, not allowed by the 'expectation-risk Government decision curve'² i.e. the degree of its risk aversion. We will deal first with condition (a) separately because of its importance.

Before doing so, let us clarify the meaning of the following terms which will be used frequently in the argument: risk, gambling, and insurance. Risk of an unfavourable event is equal to the probability of occurrence of that event multiplied by consequent losses, however they are defined. Accordingly, the various types of economic and political risks related to oil can be outlined in descending order of their political importance: cessation of trade; breakdown of the OPEC price agreement due to development of substitutions, or for other reasons given earlier;³ fluctuation in export earnings caused by instability of OPEC; and the demand induced fluctuation in the earnings resulting from international business cycle.

While the probability that the least fluctuation takes place repeatedly is considerable, the relevant losses are not by any means as great as those

1. See the Appendix on E-V rule.

2. We refer to 'Government decision curve' instead of 'indifferent curve' not only because of the problems related to identifying the latter, but also because we assumed that the Government is the decision maker in planning the country's future trade portfolio. See ibid.

3. See pp. 45-46.

of the other types of risks outlined above. By contrast, whereas the probability of occurrence of the other types may not seem large, the consequent losses could be disastrous.

Gambling means subjecting oneself 'to a large chance [probability] of losing a small amount ... plus a small chance of winning a large amount ... in preference to avoiding ... risks'.¹ Insurance is accepting 'the certain loss of a small sum (the insurance premium) in preference to the combination of a small chance of a much larger loss ... and a large chance of no loss'.² In other words, a gambler is a risk lover; he who takes insurance is a risk averter. As between 'portfolios' with the same expectation of returns, a risk lover prefers those with the greater chance of above average gains - portfolios which also carry a higher chance of above average loss.³ Conversely, a risk averter is more worried about below average returns than attracted by above average gains. As between portfolios with the same expected returns, he prefers those with smaller exceptional losses and gains.⁴ As a risk averter takes more risk, he must be compensated by a higher expectation of returns.

Should the Government in an oil economy be a risk-avertter?

Without condition (a), i.e. assumption of risk aversion, the E-V principle does not **rule**.⁵ The common argument against prevalence of risk aversion

1. Friedman and Savage (1948), p. 1.

2. Loc. cit.

3. See Tobin (1965), pp. 12-14.

4. Loc. cit.

5. Note that being concerned with individual investors in security portfolio, Markowitz and Tobin argued that such individuals are generally risk averters. See e.g. Markowitz (1959), Chap. X, particularly pp. 205-9.

is existence of gambling.¹ It is maintained that total wealth affects the degree of risk taking, i.e. for a small amount at risk, risk aversion disappears.² More importantly, it is sometimes argued that the Government is less of a risk averter than an individual investor because in the former case the losses of risk are spread over a large number of people.³ Yet another argument is that even where the Government is a risk averter, diversification may not be the best policy for insuring against risk.⁴ Let us examine these arguments one at a time.

To begin with, in an oil economy, the Government cannot gamble in its trade portfolio because of the immense size of oil. The argument in favour of gambling is valid only where the losses of risk are small. We know that in such an oil economy as Iran the bulk of the country's income, export earnings, or Government revenues are at risk.⁵ Even if the chance of a great loss is small, the Government should secure (insure) the country against the aforementioned less likely but heavy and disastrous losses.⁶

The argument on the spread of losses over a great number of people is relevant if the absolute size of the portfolio is considered. Otherwise, for an equal relative size of portfolio, in relation to income or wealth (national income or wealth), the Government may tend to be more of a risk averter as compared with an individual investor. The welfare considerations entering an

1. Arrow (1971), p. 91. See Also Tsiang (1972), and Feldstein (1969).

2. Arrow, op. cit., pp. 95-100.

3. See Corden (1974), p. 318.

4. Ibid., pp. 318-20.

5. See p. 18, Table 1.2.

6. Note that Arrow agrees that at the individual level also gambling does not rule when large amounts are at risk. See Arrow, op. cit., pp. 93 and 97.

individual investor's decision-making process vis-à-vis asset selection will be significantly different from a country allocating its resources to commodity production and trade diversification. The reasons for such a difference are various. First, the responsibilities of an individual investor, in terms of welfare provisions, rarely extend beyond himself and his immediate family. By contrast, the country, or the state as a planner, will have to be more concerned with the safety of the 'trade portfolio' in which welfare responsibilities embrace millions of people.

Secondly, at the country level, non-portfolio factors are reflected in a portfolio analysis. Here we may remove one of the assumptions made in the Appendix: that foreign exchange is the only return in a trade portfolio.¹ Accordingly, the price of a gamble, on a large amount, is not only losses of the economic returns outlined previously, but also social and political upheaval and, perhaps, a threat to the sovereignty of the state. In other words, 'trade portfolio' decisions carry political and social externalities which must be included in returns and risks of returns in a 'trade portfolio' analysis.

Thirdly, security portfolios, usually, enjoy flexibility and reversibility. The investor need not hold the same portfolio for a long period of time. He can shift his holdings from time to time, guiding himself by expected changes in the prospects of different assets.² Trade portfolios, by contrast, are fixed, and are maintained for a long period of time. Where resources are invested in the production of a commodity, converting them to other commodities in a short space is not possible.

1. See p.

2. Arrow, loc. cit.

Accordingly, the price paid for a mistake made in allocating the resources of a country to a largely uncertain trade portfolio is high. In resource allocation, therefore, the Government would tend not to gamble; quite the contrary, it would (or should) insure the country against the small chance of a large loss, perhaps, at the cost of a small certain loss.

Other conditions and their implication for diversification

Is diversification the best measure to insure against risk? The answer: much depends on the other conditions of diversification outlined above, i.e. c, d and e. It also depends on the type of risk mentioned earlier, and on merits of other measures where available. Condition (d) requires that the efficient portfolio should be attainable by the country. We have already argued that possibility of acceleration of diversification is limited in the short run. Hence, in that case other measures, to be considered later, are to be adopted, to insure against the relevant risk.

Proceeding to condition (e), one argument against diversification has been that risk reduction involves high costs. Generally speaking two types of costs may be distinguished: costs of transition, i.e. costs of removing resources from one commodity to another, and the opportunity cost of loss of export earnings during that period; and losses of the earnings due to the trade-off between risks and returns. None the less, the transition costs, while relevant in the case of (say) plantation crops, are irrelevant in the case of oil. The trade-off between risk and return is not necessarily an argument against diversification either. First of all, such a trade-off may not in all cases exist; lower risk may be accompanied by higher return.¹ Secondly, even where it exists, e.g. in the case of export

1. See Tobin (1965), p. 50.

instability, it is allowed for, to some extent, by a risk averter. By definition, a risk averter sacrifices some return for lower risk. What condition (e) implies is that the sacrifice should not be greater than is suggested by the 'decision indifference curve' of the Government. Otherwise, even a risk averter may not diversify;¹ or he resorts to less costly measures if possible.

Condition (c) rules that the less dependent the sources of risk (the closer their covariance to zero), or the more negatively dependent, the higher the possibility of diversification reducing risk. At one extreme, where there is a perfect positive correlation between returns of the commodities ($COV.=1$), no opportunity arises for reducing risk by diversification. At the other extreme, where there is a perfect negative correlation, diversification leads to a perfect hedge against risk.² Implications of condition (c) for diversification will be considered in relation to risk of cessation of trade and other risks as follows.

Development of substitution and breakdown of OPEC price agreement

The sources of these risks are absolutely independent from risks related to other commodities, exported or not. So far we have excluded production for the home market from the portfolio; we may ease that assumption here. The related risks of production for home market: strikes, harvest cycles, and climatical changes-^{all}are supply induced. Therefore they are, like risks of non-oil exports, completely independent from the above-mentioned risks connected with oil. At any rate, as a means of reducing

1. See Tobin (1964), pp. 26-30.

2. See the Appendix on E-V rule.

these risks, exports have the same advantage as production for the home market.

Now, is diversification, however effective in insuring against those risks, to be preferred to other possible measures? In theory, there are two alternative methods to reduce risks of breakdown of the OPEC prices agreement: a common fund; and policing the agreement. The idea of the common fund is to provide the members with loans for urgent needs and reduce the grounds for cheating. It could somewhat lessen the risk, but it cannot eliminate it.

Even in the case of private cartels, policing the agreement involves certain complications well attested in the literature,¹ and their reiteration is not needed here. With an inter-governmental cartel, some political problems arise because the members have different national political objectives, and they may be reluctant to submit any part of their sovereignty to the relevant body responsible for the policing. In any case, even if the agreement was policed, when a member conceives that 'rewards' of cheating outweigh the likely 'punishment', cheating prevails. The risk remains.

As regards the risk of substitution, it is sometimes suggested that the risk should be discounted, implying, cet. par. a higher rate of depletion. We have already judged such a policy to be undesirable in the case of Iran.

3.6 The Political Risk of Cessation² and Diversification

Iran increasingly concentrated on trade with the main OECD countries,

1. See Osborne (1976), Danielson (1976), and Becker (1968).

2. See p. 43 for definition.

U.S.A., members of E.E.C. and Japan, during the Shah's time.¹ After the revolution a trade embargo was imposed on Iran by these countries. Though it is too early to evaluate the effect of such a move,² it is worth clarifying the concept of risk of cessation of trade and the role of diversification in insuring against it. Such a risk is important for two interrelated reasons: the losses inflicted on the economy; and more significantly, the adverse influence of the risk on the bargaining power, thus on the terms of trade. In other words, the risk affects the return aspect of trade. We will argue that export diversification alone has little impact on the risk, because the sources of risk are not independent; diversification in its wider sense, particularly when it covers home production of basic needs, is very effective. Since diversification is not attainable fast, to reduce the risk in the short run other measures should be taken.

3.6.1 The risk, dependence and self-reliance

Risks of cessation of trade are related to the 'influence effect',³ or 'dependence effect' of trade. 'Dependence' is a general concept not always defined clearly and uniformly in the literature.⁴ Rarely is dependence distinguished from mutual dependence, and self-reliance from self-sufficiency. Seldom are elements of dependence identified thoroughly and analysed within the context of bargaining power between the trading nations. This is not the place to go into detailed explanation of the concept and mechanism of

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1. In 1977, the share of these countries in total imports was about 74.2 per cent in 1976; and 80 per cent of oil exports and 36 per cent (includes Central America) of non-oil exports were also supplied to these markets. (Based on B.M.I., An. Rep., 1977, pp. 188, 245 and 252-3).
 2. The Iranian president mentioned in a radio interview that the costs of imports went up by about \$2.5 b., on yearly basis, which is about 20 per cent of total imports.
 3. Hirschman (1968) used this term instead of dependence effect.
 4. For a critical survey of the literature on 'dependence', see S. Lall (1975).

dependence.¹ Obviously the dependence of a country, here Iran, on another country(ies) does not originate merely from 'dependence' on trade. The literature on 'dependence' has identified its various aspects between which it is difficult to draw a line.² For the purpose of this section, however, we restrict ourselves to trade dependence.

We reject the common belief as to a one-sided dependence relation between a developing and a developed country in all circumstances.³ Indeed, there is a mutual dependence between Iran and her main partner(s). Iran depends on an OECD country(ies) as a market for exports and as a source of supply. Her exports and imports are meanwhile the imports and exports of the partners. Mutual dependence therefore prevails. Albeit, the dependence of one side on the other need not necessarily be to the same degree.

Generally speaking, we may introduce then the concept of net dependence, which is the arithmetical sum of the country's dependence on her partner(s), and the partner(s)' dependence on her. One may distinguish three different cases where net dependence is: i) positive, the country's dependence on her partner(s) is greater than her partner(s)' dependence on her; ii) negative, the former's dependence is smaller than the latter's; and iii) nil. Case (i) consists of two categories: a, where partner's dependence is nil; or b, where it is positive. We regard case (i).a to represent absolute dependence

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1. For a recent survey of the literature, see Brookfield (1975), in particular Chapters 5, 6 and 7; see Girvan (1973) as well. See also the additional footnote (2) at the end of this chapter for further reference.
 2. These are: economic, political and military, and social and cultural. As regards economic dependence, the notion is clearly composed of these features commodity trade, financial resources for development, and technology. There is usually some interaction between various aspects. For example, economic dependence might bring about political dependence, and vice-versa; similarly trade dependence may well cause financial and/or technological dependence and even the other aspects of dependence.
 3. The term interdependence is usually used only in trade relations among developed countries (see e.g. Cooper (1968)), but not between a developing and a developed country (with the exception of Brookfield (1975)).

and interpret it as identical to the concept in the way usually applied in the literature. Case (i).b stands for a positive, but not absolute, dependence. Case (iii) also consists of two categories: a, trade takes place, but the relevant parties are equally dependent on each other; b, there is no dependence relation because of lack of trade. Both cases ii and iii may be defined as self-reliance. It should be strongly emphasised, none the less, that case iii.a is absolutely different from case iii.b. The latter is identical with self-sufficiency, i.e. autarky, while the former is not. As regards self-sufficiency, the country does not suffer from problems and risks involved in trade, but neither does she enjoy its advantages. By contrast, in case iii.a, and unquestionably so in case ii, the economy is to enjoy benefits of trade while able to minimise its risk. Though self-sufficiency is a type of self-reliance according to the above argument, by the latter term we do not in anyway mean self-sufficiency. Correspondingly, the aim of a self-reliant trade policy should not be, we think, to maximise self-sufficiency, but rather to minimise net dependence. This policy allows trade advantages while preserving a maximum degree of freedom to pursue legitimate development objectives of the country without suffering from the external risks beyond the nation's control. To follow this argument further we should first identify elements of dependence and relate the concept to bargaining power.

3.6.2 Elements of dependence and the role of diversification in self-reliance

Dependence of Iran on her partners as a whole rests on the losses caused by cessation of trade, but her dependence on one particular country or political 'block' is related to the difficulties of redirecting trade from one market, or source of supply, to another. The losses of trade do not

derive merely from the total value of oil, in terms of income, foreign exchange and Government revenues, or the physical surplus of goods made available by trade. More importantly, they stem from three factors: the difficulty of substituting home goods for imports by transferring resources from export, the resultant consumer surplus foregone, the losses of jobs and perhaps lives, and the consequent socio-political unrest or upheaval. These factors are not easily measurable. However, they are reflected somewhat in the terms of trade elasticities of the offer curve of the country; and they are related to the nature of the commodities, as well as the degree of commodity concentration, i.e. diversification.

Concentration on production of a primary product may make the country dependent on imports of the items which involve large consumer surplus or are vital for economic and political reasons or for security of jobs. These are basic foods, raw materials, semi-processed goods used in the assembly lines and of course strategic commodities, armaments and their components. To provide one example, in 1975-76, the average percentage ratio of imports of agricultural commodities to domestic value added in agriculture was over 67, and 8 main food items constituted about 61 per cent of imports of those commodities.¹

Furthermore, concentration on oil, like other primary products makes the structure of the economy inflexible in terms of possibilities of mobilisation of resources from one industry, or sector, to another. By contrast, a diversified economy faced with a threat of cessation is usually able to substitute domestic sources for imports unless it lacks the necessary natural resources. Though there is usually some scope for substitution of one source of supply within OECD, there are also some limits. Spare parts, semi-

1. Based on Tables 5.7, 5.8, and A.4.3.

processed goods are usually highly differentiated. Moreover, some goods for example wheat, are supplied by a limited number of countries.

Above all, the sources of risk of cessation are not completely independent where the main partners are in the capitalist block. They have such institutions as OECD, EEC, NATO, IEA ^{at hand} at hand to harmonise policies for a united action. Hence geographical diversification within OECD does not reduce the risk substantially. What is more, sources of supply outside OECD are restricted. Neither developing countries nor socialist countries have the capacity to supply all commodities provided by the western industrialised nations. Therefore, trade diversification alone is not sufficient to reduce the risk; diversification into the home market is essential, and production of basic need items should be given particular consideration.

Regarding other measures for insuring against risks of cessation, in the short run the capacity to take the risk is increased by strategic stock-piling of the vital commodities and keeping foreign exchange reserves beyond normal requirements, ^{as} mentioned earlier. None the less, such measures provide only a temporary relief; they do not eliminate the costs of risk beyond a certain period. In the long run diversification is required.

One may argue that the trade embargo imposed on Iran by USA, EEC and Japan in 1980 was not as effective as one would have thought at first sight. It should be mentioned, nevertheless, that it was only a partial embargo. It did not cover food items even in the case of USA; in the case of some EEC countries and Japan it did not cover former agreements either. More importantly, it could not be very effective because of the mutual dependence of the partners on trade with Iran. Being a large importer was an advantage for this country. The vulnerability of the partners does not originate from

the 'income effect', at the aggregate level, of exports to Iran. It is rather related to 'employment effect', and to the 'vested interest' of the private exporters. Reluctance of lamb producers in New Zealand and rice producers in the U.S.A. to accept suggestions of boycott of exports to Iran are two good examples of the vested interests of exporters.

Although those countries could afford doing without Iranian oil in the embargo, chiefly owing to the world recession, they normally take a substantial proportion of their import from Iran because she is a large producer. This is another aspect of mutual dependence through which Iran enjoys bargaining power as follows.

3.6.3 Diversification and bargaining power

As mentioned in Chapter 2, the terms of trade in Iran, like other oil economies, are influenced by bargaining power. This issue is complicated. On the exports side, the price of oil, the main export, is determined by the relative bargaining power of various members within OPEC, and is influenced by the collective bargaining power of OPEC against Governments of main importing countries and the oil companies. On the imports side also, the bargaining power of the Government as against her partners is influential. Diversification increases the bargaining power of Iran within OPEC for pursuing her price, and maybe production, policy. Similarly, it can make a substantial contribution to the collective bargaining power of OPEC, even if other members do not diversify, because she owns a large production capacity. Yet more, it enhances her individual bargaining position against her partners in trade in other commodities, imports and exports. However important these issues, our aim here is to clarify the role of diversification in bargaining power vis-à-vis Government(s) of main partners in trade. For

simplicity, first we deal with the case of Iran without OPEC, then explain the role of OPEC.

The bargaining power of Iran depends on: a) the net bargaining assets, which are identical to the bargaining assets minus bargaining liabilities,¹ if one could measure those terms; b) the ability to utilise the asset; and c) the capacity to take losses related to the bargaining liability if utilised by the partner(s). Clearly, bargaining assets and liabilities are numerous. Bargaining between entities in the world system is highly complex. Statesmen are active in a number of realms of the state's life simultaneously:² economic, trade, credits etc.; diplomatic; and military. All these affect each other. For example, diplomatic power, military power and various elements of economic power may influence trade relationships between two countries. Here we will deal only with the possible uses of exports and imports as a "bargaining asset".³

Now we may, generally speaking, define the partner(s)' dependence on Iran as her bargaining asset, and her dependence as a bargaining liability. The asset provides the country with a base of power to inflict losses on the partner(s) by ceasing or interrupting trade, exports or imports; the liability refers to the losses inflicted by the partner(s). The Government on each side has the power to interrupt the trade, or influence the policies of the other by threatening the use of that tool.⁴ In essence net bargaining

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1. I borrowed the terms bargaining asset and bargaining liabilities from H. Wriggins (1973).
 2. As Wriggins put it "Statesmen play on a number of chess-boards at the same time"; see ibid., pp. 4-5.
 3. For other aspects of bargaining power between a developing country and a developed country see Streeten (1975), Helleiner (1975), pp. 1-31, Lipton (1974), Zartman (1967), and Vaitzos (1975). The last source deals with aspects of bargaining power with multinational companies, but others are more general.
 4. In this respect we make mention of 'quasi bargaining', that is bargaining without negotiation, as against explicit bargaining which requires direct contact and negotiation (see Fellner (1949), pp. 15-24).

asset is identical with the degree of self-reliance of the country. Diversification improves bargaining power by reducing the bargaining liabilities of the country.

The OPEC agreement increases the ability to utilise bargaining assets collectively, by coordination of their price policy.¹ Diversification, particularly if undertaken by all members, strengthens collective bargaining power by reducing the pool of liabilities. The capacity to take losses of risk of cessation depends on 'other measures', mentioned earlier, taken to reduce the risk, and on such non-economic factors as the political backing of the regime by the people. This obviously stems from the power-base of the Government, and is influenced, among other factors, by whether the Government utilises oil revenues for the interests of the general masses.

* * *

To conclude this chapter, while development and diversification are interrelated, the key issue is development. The primary objective of diversification should, in our view, be to develop, according to the development objectives, alternatives to oil beyond what would have otherwise been by the time of exhaustion. To do so, oil itself should be utilised by going 'into' oil first via an appropriate price policy, through OPEC, and depletion policy. Iran appears justified in being a price 'snatcher'. The speed of depletion should none the less directly be related to the speed by which diversification can take place; investment abroad does not seem promising.

1. It enables a country facing a price elastic demand curve in isolation, to enjoy the price inelastic demand curve for the whole industry; in essence it works like a trade union. The agreement also improves the information about the market and the skill of bargaining.

While preparing for the time of exhaustion is to be the main aim, in the meantime diversification in the wide sense has further important benefits. Not only does it reduce the risks of concentration in oil which are increased by the OPEC agreement, but at the same time it contributes to the bargaining power, thus to improving, or maintaining the terms of trade. Accordingly it indirectly provides further financial means to development. In ^{this} sense diversification and bargaining power are positively interrelated. To reduce the risk of cessation and enhance bargaining power, trade diversification alone is not sufficient. Diversification into the home market, particularly when it covers production of basic need, is an effective tool. There is no conflict between such a policy and the general objectives of development which also contain identifying 'basic needs'.

One implication is that if the increase in the oil revenues does not lead to diversification, the bargaining liability of the country increases over time as a result of dependence on oil and on the foreign sources of supply of commodities; and the bargaining asset reduces as oil is depleted. Obviously, less oil reserves mean less ^{of a} bargaining asset. Two factors can contribute to such development: increase in the rate of time preference in favour of present consumption; and waste of oil revenues through acceleration of investment outlays over what is allowed by the ceiling rate of growth in non-oil GDP. In short, as regards bargaining power also, the speed of depletion should be related to the speed of diversification.

Additional notes

1. For early literature on the causes of instability in export earnings, see Hirschman (1945, revised 1968), Chapters VI, and VII, M. Michaely (1958); for its costs see particularly Levin (1960), pp. 186-202. MacBean (1966), particularly Chapters 3 and 4, and Peter B. Kenen (1972)

challenged the traditional views on the causes and the costs of the instability as mentioned in the text. Maizels (1968) and Glezakos (1973) re-examined the data used by MacBean, country by country rather than at the aggregate level, and found that the statistical evidence adduced appeared to contradict MacBean's conclusions. They showed that MacBean's study suffers from methodological deficiencies, from weakness of analysis, and from misuse of statistics. Seiji Naya (1973) measured instability in 17 Asian countries and concluded that their export instability as a whole was less than that in industrial countries; but he confirmed MacBean's finding that the instability is hardly related to commodity concentration. Erb and Schivao-Campo (1969, 1971), Lawson (1974), Massel (1970), and Leith (1970) all concluded that though the instability in export earnings of LDCs declined over the 1960's, it is still greater than that in DCs. The decline is attributed by Yamazdiva (1971), O'Brien (1972) and Massel (1970) to the fall in the geographical concentration. Massel also noticed that there is no tendency for export earnings from raw materials to be more unstable than manufactures exported from LDCs, and that the larger the share of foods in total export the smaller the instability. Mathieson and McKinnon (1974) showed that LDCs suffer more than DCs from the instability. They also demonstrated that the higher the ratio of export to GDP, the lower the instability in GDP.

2. For explanation of mechanism of dependence in the mineral exporting countries see Girvan (1970); for plantation economies see Beckford (1972), particularly chapters 6-10. For leftist views on dependence see Mandel (1976), Magdoff (1976) and, in particular, Sutcliffe (1972). These authors deal with the role of imperialism, capital and technology. For a critique of Sutcliffe see Warren (1973), and for a response to Warren see Emmanuel (1974) and McMichael et al. (1974). For the literature on the reaction of developing countries against dependence see Girvan (1975), and Moren (1973). For conditions of 'independent' development see R.H. Green (1974) and Sutcliffe, op. cit.

Chapter 4

Linkages of oil and the role of the Government

4.1 Introduction

In the previous chapter the external aspects of oil were considered. Here we will examine the way in which oil is linked to the economy. It will be argued that while oil makes a significant direct contribution to growth, it does not tend to promote the development of the non-oil sector automatically. Its main impetus emerges from utilisation of the enormous 'rent' accruing to the Government. 'Vertical linkages', i.e. forward and backward linkages of oil with the rest of the economy are small. Its labour intensity is low, and its 'horizontal linkages', i.e. payments to factors of production,¹ are hardly significant. By comparison, its fiscal linkages through oil revenues are immense, and they are collected by the central Government. Moreover, oil contributes to Government revenues indirectly through profit taxes on NIOC, customs duties and so on. Furthermore, it increases the Government's credit-worthiness in international financial markets.

The Government acts as an intermediary between the oil sector and the rest of the economy. The size of the oil revenues being large, in relation to GNP, the role of the central Government in the allocation of resources for the acceleration of diversification becomes extremely crucial. Economic decisions are made predominantly by the Government, and 'governmentalism' emerges.² The political will of the Government hence becomes critical for development.

4.2 Direct Contribution to Growth

Oil has made a significant direct contribution to the growth of GNP,

1. Excludes oil revenues received by the Government.

2. See pp. 51-62 in Chapter 2.

particularly over the Fifth Plan period, but the growth in oil GNP originated almost entirely from exports of crude oil. On the basis of Table 4.1, during the Third and the Fourth Plan, oil accounted for about a quarter of the growth in GNP. By comparison, over the Fifth Plan, the contribution of oil to growth has been enormous, as is indicated by the same table.

Table 4.1

Direct contribution of oil to average annual rate of growth in GNP at constant prices during various plan periods

	Period of		
	Third Plan	Fourth Plan	Fifth Plan
	1962-67	1967-72	1973-77
	%	%	%
1. Growth in crude oil production	15.3	14.1	0.7
2. Growth in oil GNP	15.1	14.2	25.9*
3. Growth in GNP	9.6	10.6	17.4*
4. Share of oil in GNP at the beginning of the period	13.5	15.8	32.1

* Corrected for the change in the terms of trade

Source: Based on Tables A.3.1., A.4.2 and A.4.4.

It should be noted that oil GNP is being regarded, by the Central Bank of Iran, as the difference between Gross Domestic Value Added in oil and the share of foreign companies in profits. Such a method of calculation leads to over-estimation of the direct contribution of oil to the Iranian economy because it includes payments to expatriates and other foreign factors of production. However, the relative share of factors of production in value added in oil has been decreasing over the period under

consideration (see Table 4.4).

Hence, it has a negligible effect on

the contribution of oil to GNP.

Export of crude oil was the main source of growth in the oil sector. The average annual growth rates of output of refined products were not high; over 1962-72 and 1973-77 they stood around ^{and 6} ~~3.1~~ per cent¹ ^{respectively}. What is more, exports of refined products declined by half between 1962 and 1977.² At any rate, as mentioned before, the source of export earning over 1962-72 was fast expansion of the volume of exports of crude because of an exceptionally rapid increase in the world demand for oil as compared to other commodities.³ By contrast, over 1973-77 the colossal improvement in the terms of trade formed the source of growth in oil GNP. (Compare rows 1 and 2 in Table 4.1.) In fact, the growth in the volume of exports was nil over that period.⁴ In spite of such stagnation, the exports of crude oil constituted the bulk, over 86 per cent, of crude oil production in 1977 as compared with about 70 per cent in 1962 according to the same source.

The importance of exports of crude oil in total oil production leads us to our argument on linkages to which we will turn now.

4.3 Various Linkages of Oil

The intention here is not to go into a detailed examination of the relative importance of various linkages of the oil sector. It is widely known that the vertical and horizontal linkages of the oil sector in developing countries are generally small as compared with fiscal linkages.⁵ Our purpose

1. Based on Table A.3.1.

2. Ibid.

3. The annual average growth rate of the volume of export was over 17.5 per cent (based on Table A.3.1).

4. Based on ibid.

5. See Rollins (1959); and Mikesell (1971), Chaps 1, 6 and 10.

is to take a quick look at the issue in order to provide the reader with some ideas about the relative magnitudes of various linkages in the case of Iran.

To pursue the argument we will take a few snapshots. Basically we will try to compare the figures for the beginning of the period under study, the year before the first increase in the price of oil, 1970, and the latest year for which the relevant data are available after the rise in the price of oil in 1973-74.

To examine the vertical linkages we used the input-output tables of Iran prepared for the year 1972. Table 4.2 summarises the results. We need not

Table 4.2

Input-output figures for the oil sector of Iran (1972)

Inputs from			Output by use		
	Rl.b.	as % of V.A. ¹		Rl.b.	as % of oil output
1. Oil	62.7	38.2	5. Oil	26.4	20.1
2. Non-oil	(4)	2.4	6. Non-oil	19.2	6.1
Agriculture	-	-	Agriculture	(0.3)	(0.1)
Industry	(2.5)	1.6	Industry	(10.3)	(3.3)
Others	(1.5)	0.8	Others	(8.6)	(2.7)
3. Import	0.1	nil	7. Final consumption	9.9	3.2
4. Total inputs	66.8	27.2	8. Export	220.3	70.6
			9. Total output	312.1	100
			10. Value added (9-4)	245.4	78.6

1. Value added

Source: Extracted from G. Ekstein and G. Badakshan, Projection of Input-Output Tables for Iranian Economy 1972 and 1977 (Teh. Min. of Economy. Research Centre for Industrial and Trade Development, Unpub. mimeo. 1972), Table 5, p. 14.

remark that the input-output tables concerned are tentative in nature. None the less they provide us with some rough ideas about the vertical linkages. It appears that vertical linkages of oil with the rest of the economy are small. Oil materials used as inputs, by the rest of the economy, hardly exceed 6 per cent of the total output of oil. The output of other sectors, used as inputs in the oil sector, constitutes only 2.4 per cent of value added in oil. The relevant input and output figures (both) make less than one per cent of non-oil GDP.¹ In particular, oil provides almost no linkages with agriculture, the poor sector of the economy, as is clear in the table.

Despite its significant and increasing contribution to GDP, the contribution of oil to employment declined considerably between 1960 and 1970 according to Table 4.3, apparently because of the change in the technique of production in favour of capital intensive methods. The increase in employment in more recent years is due to the expansion of petro-chemical and gas industries, not the oil industry. At any rate, in 1972 the oil sector as a whole employed less than one per cent of the economically active population of the country; and the increase in the number of workers employed since then does not noticeably alter the picture.

It is worth mentioning that Table 4.3 shows the total number of the workers employed in crude oil, gas and their downstream activities. When downstream activities are excluded, the employment effect is almost negligible. The number of persons engaged in discovery and exploitation of crude oil and gas in Iran in 1972 amounted to 1323; this is 3.2% of the total workers employed by the oil industry.²

1. Based on Table 5.2 and Table A. 4.3 . Note that the situation in other main oil exporting countries is more or less the same as shown in Table A. 3.2.

2. Based on M.A.I., Manpower Census 1972, p. 146.

Table 4.3

Employment in the oil industry in Iran

	No. employed ¹ (1000 persons)	% share of oil in GDP
1960	58.9	16.5
1972	40.8	26.1
1975	60.2	31.8

1. Includes all oil activities, petrochemicals, gas, pipe-rolling mill and National Iranian Tanker Co.

Sources: GDP, as A.4.1, and A.4.3; employment: for 1960, Nahai and Kimbell (1963), p. 20; others: NIOC.

Table 4.4

Distribution of domestic value added of the oil sector in selected years
(percentages)

	<u>1963</u>	<u>1970</u>	<u>1974</u>
1. Wages and salaries	9.9	6.8	0.9
2. Interest and property rents	0.3	1.1	0.1
3. Depreciation	6.1	6.8	2.1
4. Profit	83.8	85.2	96.9
5. Iranian Government	(41.1)	(47.6)	(78.2)
6. Foreign companies	(42.5)	(37.6)	(18.7)
7. Oil GDP (1 + 2 + 3 + 4)	<u>100</u>	<u>100</u>	<u>100</u>
8. Oil GNP (7-6)	57.4	62.3	81.3
9. Gov. share (5:8)	71.6	76.4	96.2
10. Factors' share (1 + 2 + 3):(8)	28.3	23.6	3.8

Sources: 1963 and 1970: B.M.I., N.I. 1959-71, p. 32; 1974: M.A.I., Dept of National Accounting and Financial Statistics, 'Estimation of Value Added in Oil and Gas' (unpub. paper, 1975), p. 22.

While the relative share of value added in the total value of oil is significant (Table 4.4), the share of wages and salaries in value added was small in 1963 and declined to a negligible figure of less than 1 per cent in 1974. Similarly, payments to other factors of production, such as interest, property rent and depreciation, are relatively small as is clear in the same table.

Even if we assume, wrongly, that the above-mentioned payments to factors of production are not remitted abroad at all, and that they are entirely spent on domestically produced materials, the horizontal linkages (row 10) will not appear significant when compared with the share of the Government in the profit, i.e. fiscal linkages (rows 9 and 10). Moreover, while the relative importance of horizontal linkages declined over time, the fiscal linkage increased substantially. Roughly speaking, oil revenues accounted for almost the entire national value added in 1974, after the price rise, when the Government's share in the profit escalated due to nationalisation (row 5).

In short, vertical and horizontal linkages of oil have been, relatively speaking, insignificant when compared with the fiscal linkage, particularly after the rise in the price of oil in 1973-74. Under such conditions, the Government plays the role of an intermediary between the oil sector and the rest of the economy. The expansionary impact of the export of oil on the rest of the economy will then depend on the way the Government allocates oil revenues.

4.4 Oil and the Government

The fiscal linkages are not only enormous in relation to oil GNP, but also in relation to GNP as a whole. Moreover, oil also contributes to Government revenues indirectly through the Government's share in profit of NIOC,

taxes and customs duties. Furthermore, it provides the Government with credit-worthiness in the international financial market. All those revenues and receipts make the central Government extraordinarily important in the direct allocation of the financial resources. Accordingly, the Government possesses a unique position, in terms of the degree of participation in the economy, not only among developing countries, but also in comparison with OECD countries and even socialist countries.

The Government collects the lion's share of GNP, mainly in the form of oil revenues. As is shown in the following table, the relative importance of total revenues in GNP increased to a peak level in 1974; and the share of oil revenues in the total revenues more than doubled over 1963-1974.

Table 4.5

Percentage shares of oil revenues and Government revenues in GNP in various years

	<u>1963</u>	<u>1970</u>	<u>1974</u>	<u>1977</u>
1. Total revenues ¹	17.2	23.1	47.3	39.2
2. Oil revenues	7.7	10.7	38.5	28
3. Ratio: 2:1	0.447	0.46	0.82	0.71

1. Includes special revenues.

Source: Based on Tables A.4.1, A.4.3 and A.2.2.

The contribution of oil to Government revenues has gone beyond oil revenues. Firstly, oil also contributed to Government revenues in the form of the Government's share of the profits of NIOC, bonuses and various taxes. As shown in

Table 4.6, when all these were considered, the contribution of oil to Government revenues increased to over 63 per cent in 1972 and to about 92 per cent in 1974.

Secondly, one may attribute a proportion of customs duties to oil. Certainly, given the import tax rate, had it not been for ample foreign exchange received through the oil sector, the imports, hence customs revenues, would have been smaller. To estimate such an indirect contribution of oil to Government revenues, we considered the sum of the items in the current account of the balance of payments of the country as a rough indicator of her import capacity. The contribution of oil to the current receipts then was considered as a measure in proportion to which customs revenues were attributed to oil. Inclusion of a portion of customs duties, so estimated, then increased the contribution of oil to Government revenues to about 72 per cent in 1972 and about 96 per cent in 1974.

Note that oil has two opposite effects on taxes in general. On the one hand, it increases the tax base positively; on the other hand, it seems to reduce the need for high tax rates on other sectors, as we will show in Chapter 7.

Yet another indirect effect of oil on the Government budget is its contribution to the credit-worthiness of the Government in the international financial

market. The ability of the Government to obtain foreign loans becomes clear when the accumulated loans for the period before the price rise of 1973 are measured against such yardsticks as foreign exchange earnings, or non-oil GDP. On the basis of the data derived from the foreign exchange receipts and payments, the sum of net debts accumulated by the state between 1962 and 1972 was over \$ 3.2 b. in 1972. The figure¹ constituted over 96 per cent of the total foreign exchange earnings.

1. Based on Table A.2.8; the figure includes interest for 1972 on the basis of an arbitrary rate of interest of 7 per cent.

Table 4.6

Contribution of oil to Government revenues in Iran (1972, 1974)

	1972		1974	
	Rl.b.	%	Rl.b.	%
1. Oil (& gas) revenues	178.2	56.2	1205.3	84.9
2. Gov. share in profits of NIOC	2.3	0.6	38.5	2.9
3. Taxes ¹	7.3	5.6	70	4.9
4. Bonus	3.2	1.0	-4	-
5. Statistical error ²	0.1	nil	-9	-0.6
6. Total (1-5) <u>added:</u>	<u>201.4</u>	<u>63.4</u>	<u>1304.8</u>	<u>91.9</u>
7. 77.8% of custom duties	25.8	8.2	-	-
8. 89.9% of custom duties	-	-	56.7	4
9. Total (6 + 7) :8	<u>227.2</u>	<u>71.6</u>	<u>1361.5</u>	<u>95.9</u>
10. Other revenues ³	90.1	28.4	57.6	4.1
Gov. revenues (9 + 10)	317.1	100	1419.1	100

1. Taxes on profit of NIOC, wages and salaries, income of contractors, and sales tax on oil products.

2. Due to difference in item (1) in two sources.

3. Includes special revenue.

4. Included in item (1).

Sources: Line (1) and (10) as Table 4.5; lines (2)-(4): M.A.I. as that of Table 4.4, pp. 20-1; others: estimated by this author based on current receipt items of the Balance of Payments, B.M.I., An. Rep. 1975, pp. 158-9 and data on the customs duties.

over 3.5 times the export earnings of the non-oil sector and about 26 per cent of non-oil GDP in the same year. Obviously, with outstanding debts of such a magnitude, obtaining foreign loans would have not been easy had it not been for the credit-worthiness provided by oil.

As we will explain later on, oil revenues and foreign loans allowed fast expansion of Government expenditure without relying on taxes. Here, let us

continue with the importance of the Government in the economy.

While the role of the state in the economy, in terms of the allocation of financial resources, has increased substantially, the key role has been played by the central Government. Let us regard the ratio of state expenditure to GNP as an indicator of the degree of its direct participation in the economy. According to the following table, that ratio more than doubled over 1963-1976 and reached 61 per cent at the end of the period concerned. None the less, the same table indicates that the relative importance of local governments in the state budget, which was already insignificant in 1962, reached a negligible level in 1976. Moreover, the share of public enterprises and corporations in the total expenditure also diminished according to the same table. Correspondingly, the significance of the central Government escalated.

Table 4.7

The ratios of State expenditures, at various levels, to GNP in selected years (%)

	<u>G_c¹</u>	<u>P.&C.</u>	<u>L.G.</u>	<u>S</u>	<u>P.&C.+S</u>	<u>L.G.÷S</u>
1963	18.2	6.95	0.6	25.8	27	2.3
1970	33.7	12.21	0.86	46.7	26.1	1.8
1976	44.8	15.6	0.6	61.0	25.6	1.0

1. Includes expenditures financed through special revenues. G_c stands for the central Government, P.&C. for Public Enterprises and Corporations, L.G. for Local Governments, and S for the public sector as a whole.

Sources: Tables A.2.6, A.4.1 and A.4.3.

The Government in Iran, like other oil exporting countries, enjoys a unique position, in terms of its direct participation in the economy, when compared to other types of economies. We have compared, in the Appendix,¹ Iran with other oil exporting countries, and oil exporting countries with some groups of developing countries in terms of S , G^2 and G_c . In these respects we have also compared oil exporting countries with the main OECD countries and the main socialist countries. We took the year 1972 for comparison so as to present a picture of the situation unaffected by the price rise of 1973-74.

Despite the statistical deficiencies mentioned in the Appendix our comparison points to the following conclusions. First, for Iran the degree of state participation in the economy (S) is higher than that of oil exporting countries as a group. Secondly, by judging the figures on G and G_c , for which data for most countries of Table A.2.9 were available, oil exporting countries, as a group, and other mineral exporting countries, particularly the former, seem to carry a greater degree of participation than other developing countries with a few exceptions. These exceptions are Israel, Egypt and Sri Lanka. Israel and Egypt were involved in a war; so military expenditure inflated the Government expenditure. In 1972 the share of military expenditure in GNP for Israel and Egypt was about 32 per cent and 23 per cent respectively.³ Sri Lanka, as well as Egypt, was committed then to a sort of socialist pattern of society.

To continue, the heavy participation of the state in oil and other mineral exporting countries was not unexpected. It is related to the nature of the export sector and its size in relation to GNP. In those countries the

1. See Tables A.2.9 , A.2.10 , and A.2.11 and relevant illustrations.

2. $G = G_c$ + expenditures of public enterprises and corporations.

3. See International Institute of Strategic Studies, The Military Balance 1975-76, pp. 76-77, Table 2.

Government's share in the national value added of the export sector seems to be larger than the share of other agents of production.¹ The opposite is true in the case of crop economies. Moreover, for the former group the contribution of a single export commodity to national income is larger than that in the latter group as is clear in Table A.2.9.

Thirdly, for oil exporting countries, S is, on average, higher than that for all OECD countries of Table A.2.10, including such welfare countries as the UK and Sweden. More importantly, in a few oil exporting countries S is even higher than the ratio of state expenditures to net material product of some socialist countries in Table A.2.11. (Note that the system of national accounting in socialist countries is different from those in the non-socialist countries. In the former case 'non-productive' services, such as government services, which constitute an important item are excluded from the national income. Had it not been for that, the socialist countries would have shown a smaller ratio of state expenditure to national income.)

Finally, another distinctive feature of the Government in Iran, and other oil exporting countries, is a high degree of centralisation. Even in Algeria, the most decentralised among oil exporting countries, the share of local Government's expenditure in national income hardly amounted to five per cent. This is small compared to the figures for West Germany, the USA and the UK for which data were available. The percentage share of expenditures of local government to national income for those countries are 21.2, 21 and 8.6 respectively.

We should remind the reader that our results were based on data for 1972. Obviously, after the price rise of 1973 the degree of state participation in

1. For the case of oil see section 4.3.

Iran, and other oil economies, has drastically increased. Concerning Iran, on the basis of the preliminary figures for 1977, S was over 68,¹ greater than the corresponding ratio for every single socialist country of Table A.2.11.

The Government has chosen to spend the bulk of the oil revenues received directly. Theoretically speaking, to allocate oil revenues, the Government may follow one or a combination of the following paths: i) invest resources directly; ii) channel them into the private sector, through development funds or similar agencies; and iii) initiate joint ventures with the private sector again through development funds, etc. In practice, the percentage of development credits allocated for alternatives(ii) and (iii) is negligible in Iran. The relative share of total loans to the private sector both for investment, including equity share participation, and current expenditures in total Government payments was about 2.2 per cent in 1963, about 0.9 per cent in 1970, and about 1.3 per cent in 1977.²

We should mention that though allocation of loans to the private sector through the budget was small over the period concerned, the Government was in fact the main source of finance to the private sector. For example, in 1974 the Government owned about 68 per cent of the total assets of the banking system in the form of public banks and equity shares in the 'mixed banks'.³ More importantly, public banks were the only source of credits to agriculture and the main source to the industrial and construction sectors.

1. Sources: as Table 4.7.

2. Based on Table A.2.7.

3. See M.A.I., Natayege Amargiri Az Bankhaye Keshvar 1973-74, Ser. No. 625, p. 8. Note that after the revolution the banking system as a whole was nationalised.

The Government in an oil economy is particularly prone to 'governmentalism'. Governmentalism features not only a high degree of state participation in the economy and heavy centralisation of decision making, but more significantly the nature of the Government's financial relationships, and thus political relationships, with its citizens. The Government's source of finance is not tax, but oil revenues received from outside the economy. This has made the Government in oil economies financially independent of the citizens. Moreover, the Government has failed to spend the revenues in such a way as to benefit the mass of the people. Hence, the Government was alienated from the general masses. In fact, for the period of our study in most oil economies, except for Venezuela and Trinidad,¹ the Government was not elected by the people. It was imposed on the country in one way or another - in most cases through militarism and by external support. Such was the case of Iran. At any rate, we have earlier suggested that in Iran the revival of despotism was facilitated by the presence of oil revenues. This means that oil revenues have been the source of despotic power. Indeed, we are tempted to use the term 'petrolic society' instead of 'hydraulic society', suggested by Wittfogel in explanation of the source of despotism.² As we will argue in the following chapters, the preference of the Government has diverged from the national interest, and the lack of political 'will' exacerbated the problems of acceleration.

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1. And more recently Nigeria. Concerning Iran, at this stage we may note that since the revolution the importance of the Government in the economic activities has sharply mounted. The banking system, insurance and credit companies and large industrial establishments have been nationalised; properties of the royal family have been confiscated by the Government; and the Government tends to involve itself in import transactions more directly than before. At the same time, though it is too early to judge the future political situation, there are signs of a tendency towards re-strengthening despotism, in different form, and Governmentalism.
 2. See Chap. 1, pp. 11-12 for details.

To conclude this chapter, trade in oil has made a significant direct contribution to the growth of GNP, but its vertical and horizontal linkages with the non-oil sector have been insignificant. By contrast, it has provided increasingly significant fiscal linkages. The extreme dominance of fiscal linkages over other linkages has implications for diversification and development. The Government is to play an intermediary role between oil and the rest of the economy. It is not only the acceleration of non-oil GDP, but also the distribution of benefits of growth that is being determined by the political 'will' of the Government. The Government becomes the key element in direct allocation of the economy's resources, in allocation of finance to the private sector, and in other economic decision-making and policies.

Chapter 5

Supply Bottlenecks

5.1 Introduction

In the previous chapter we showed that the contribution of oil to the growth of non-oil GDP arises almost exclusively from injection of the oil revenues into the economy. In fact, the Government injected massive amounts into the economy after the 1973 price rise with a view to accelerating growth in the non-oil sector, as shown in Chapter 1. Nevertheless, despite the availability of foreign exchange, and rapid escalation in imports, very soon growth halted and inflation accelerated.

To remind the reader, the proponents of the 'big-push' theory underestimated the inimical role of 'supply bottlenecks', and political and other institutional factors in the acceleration of development. Kalecki took into account those factors and argued that apart from the institutional factors the 'supply determined industries' limit the ceiling rate of growth. He believed, however, that imports remove shortages by increasing the supply of 'supply-determined commodities'¹ necessary for growth and mitigate inflation by balancing the supply and demand for necessities, i.e. foods and other wage goods. In brief, imports were regarded as 'the joker' of growth; all bottlenecks are transferred to the foreign trade sector, he maintained.²

In this and the following chapter we will, generally speaking, argue that despite availability of foreign exchange, the role of imports in the acceleration of growth and mitigation of inflation was limited. Firstly, the physical capacity to import, the shortage of non-tradeable 'supply-determined commodities', the lack of skilled labour and training facilities, and the sluggish growth of agriculture put a ceiling on the rate of growth of non-oil GDP. Secondly, the resultant imbalances in the supply and demand,

1. See pp. 36-37 for the definition.

2. See Chapter 2.2 for details.

both in the commodity and factor markets, made mitigation of inflation difficult. Thirdly, however, while physical shortages and bottlenecks played an inimical role in the acceleration, the Government policies aggravated those shortages. Since we have allocated a separate chapter to the Government revenues and expenditure because of their particular importance, here, and in the next chapter, we will refer in our argument to other Government policies. Nevertheless, we will keep in mind our hypothesis that oil revenues allow acceleration of both investment outlays for expansion of production capacity, and consumption expenditures and non-productive investments; but the very possibility of the latter limits prospects for the acceleration of growth.

Postponing the argument on inflation to Chapter 6, we will concentrate in this chapter on the supply bottlenecks. First of all, section 2 will argue that before the financial capacity to import was exhausted, the physical capacity to import put a ceiling on the rate of growth of non-oil GDP. Secondly, despite rapid growth of imports, the ceiling on the rate of growth of 'supply-determined' commodities did contribute to halting diversification. For the purpose of this argument 'supply-determined' industries may be classified into two categories according to the way they contribute to the growth of non-oil GDP and according to impact of imports on their supply. Type (1) are those whose direct contribution to growth and diversification may not necessarily be large because of their small size, but they are essential inputs into the production of other commodities. This group includes not only tradeables, considered by Kalecki, but also non-tradeables, or imperfectly tradeable commodities. Examples of non-tradeable or less tradeable supply-determined industries in Iran are electricity,¹ water and some building

1. Electricity can be traded, as in some African and European countries, but it was not traded in Iran. The Government made an attempt to purchase some electricity from Russia but it did not succeed. Other neighbouring countries did not have the capacity to supply Iran with the extra electricity needed.

materials. Taking up the case of electricity, shortage of which hampered growth more seriously than the others, it will be shown in section (3) that the rapid expansion of consumption, influenced by Government policies directly, or indirectly, further limited the supply to the productive sectors.

Type (2) consists of agriculture, rapid growth of which could make a significant direct contribution to the acceleration of growth and diversification because of its relatively large size, but since agricultural commodities are tradeables their shortages can be remedied by imports in the short-run when foreign exchange is ample. Nevertheless, the very easiness of imports may have a negative effect on the development of agriculture which is an essential part of the long-run diversification strategy, for the reasons given in the first chapter.¹ The fact that agriculture is 'supply-determined' implies that its development takes a long time and requires continual attention by the Government. The Government should allocate funds to this sector directly where the private sector is not willing to invest, and indirectly through the supply of credits. It should also provide the right incentives, to the peasants and the rest of the private sector, and suitable institutional set-up, infrastructure and services. We will show in section (4) that despite the fact that the Government undertook land reform, the very Government policies in other areas were responsible for the sluggish growth of this sector. The vested interests of the 'Governmental class', and the lack of political power by the peasants, accompanied by an easy source of supply through imports, impeded rapid development of agriculture.

Finally, the possible contribution of foreign exchange to the mitigation of imbalances in the factor market is also limited. Shortage of skilled labour and unskilled labour cannot be removed entirely by employing migrant labour;

1. See pp. 2-4.

not all skills are tradeable. Furthermore, imports of skilled labour do not necessarily help accumulation of knowledge and technology, i.e. the human assets necessary for development. Once again the Government is to be blamed for wrong planning, over-reliance on migrant labour, and neglect of education and training. Section (5) is allocated to these points.

Before proceeding further, let us mention a general point which although not being a part of the argument of this chapter, is to a great extent related to it. The performance of the economy over the period of the Fifth plan seems to suggest that the revision in the target rate of growth of non-oil GDP does not seem to have been a sound policy. Despite over three-fold increase in the

Table 5.1

The planned and actual average annual growth rate of non-oil GDP and its main components over 1973-77

	<u>Planned (%)</u>		<u>Actual (%)</u>
	Original	Revised	
Non-service sectors	11.1	13.6	11.1
Manufacturing and Mining	15.3	21	15.8
Agriculture	5.5	7	4.6
Construction	13	?	14.4
Services	11.5	16.4	15.3
Non-oil GDP	11.3	15	13.3

Sources: Table 1.6 and 5th Plan. A Summary, pp. 5, 50 and 60.

actual Government expenditures, as compared with the originally planned figure,¹ the achieved growth rates of the main sectors, except services, are around the

1. See Table A.2.3.

original target rates; and that of the non-service sectors as a whole is exactly equal to the original target rate. Rapid growth of services was mainly due to rapid expansion of Government bureaucracy and militarism, as we will show in Chapter 7, and to growth of such services necessary for imported commodities as banking and insurance, transport and trade.

Obviously, we are making a judgement ex-post, i.e. after the period of the plan is terminated. Ex-ante, it is very difficult indeed to choose a ceiling growth rate which can be achieved in practice. Accordingly, there are so many factors involved that one cannot present an exact figure unless strict assumptions, sometimes unrealistic, are made. Apart from availability of financial, as well as physical, resources, those factors include for example the general strategy for development, relative weights given to various sectors, and to various commodities in each sector, the choices of technique at commodity and sectoral levels, and finally the Government preference for consumption and investment. We do not intend to provide the reader with an alternative rate. Our point here is that however complicated those issues may be, when the Government aimed at accelerating growth, whatever the target rate, its policies should have been consistent with that objective. As will be explained in the following chapters, such consistency was not achieved.

5.2 Imports and the Physical Capacity to Import

While the literature usually deals with the negative aspects of imports for a developing country and regard it as a leakage, Kalecki emphasised that they also make a positive contribution to growth by increasing the supply of investment goods, raw materials, intermediate goods, and factor services, domestic supply of which is limited. They also increase the supply of necessities and mitigate inflation, he added. One should

not however over-estimate the role of imports in the acceleration of diversification, for the following reasons. Firstly, Kalecki rightly argued that as the attempted rate of growth increases, the contribution of imports to growth declines i.e. $\Delta Y / \Delta M$ tends to fall, and the marginal propensity to imports ($\Delta M / \Delta Y$) tends to rise. To adopt such a proposition in the case of Iran, where there was a large gap for a while between GNP and domestic expenditures due to the surplus in the balance of payments, we propose that $\Delta M / \Delta E$ tends to unity as the rate of growth in aggregate expenditure (E) increases. Moreover, since growth in non-oil GDP (NG) rather than GNP is concerned, we suggest that $\Delta NG / \Delta M$ declines, as the attempted rate of growth of non-oil GDP increases. Secondly, before the financial capacity to import is exhausted, the physical capacity to import, we will show, tends to become a bottleneck itself because of the lack of necessary infrastructure. Thirdly, in such a situation the higher the growth of consumption, the greater would be the proportion of the import capacity allocated to imports of consumer goods, which limits prospects for imports of investment goods, intermediate goods, and raw materials.

The ratios

To test the hypothesis on changes in $\Delta M / \Delta E$ and $\Delta NG / \Delta M$ is a delicate issue. The nature of the tests requires accurate data. The data on expenditures and output are not reliable enough for that purpose. Moreover, there are some other problems involved. For example, as regards the former ratio, changes in imports depend not only on changes in the rate of growth in domestic expenditure, but also on changes in Government import policy. Furthermore, in recent years, the demand for imports has not been satisfied because of limited physical import capacity. In effect, actual imports have been smaller than desired.

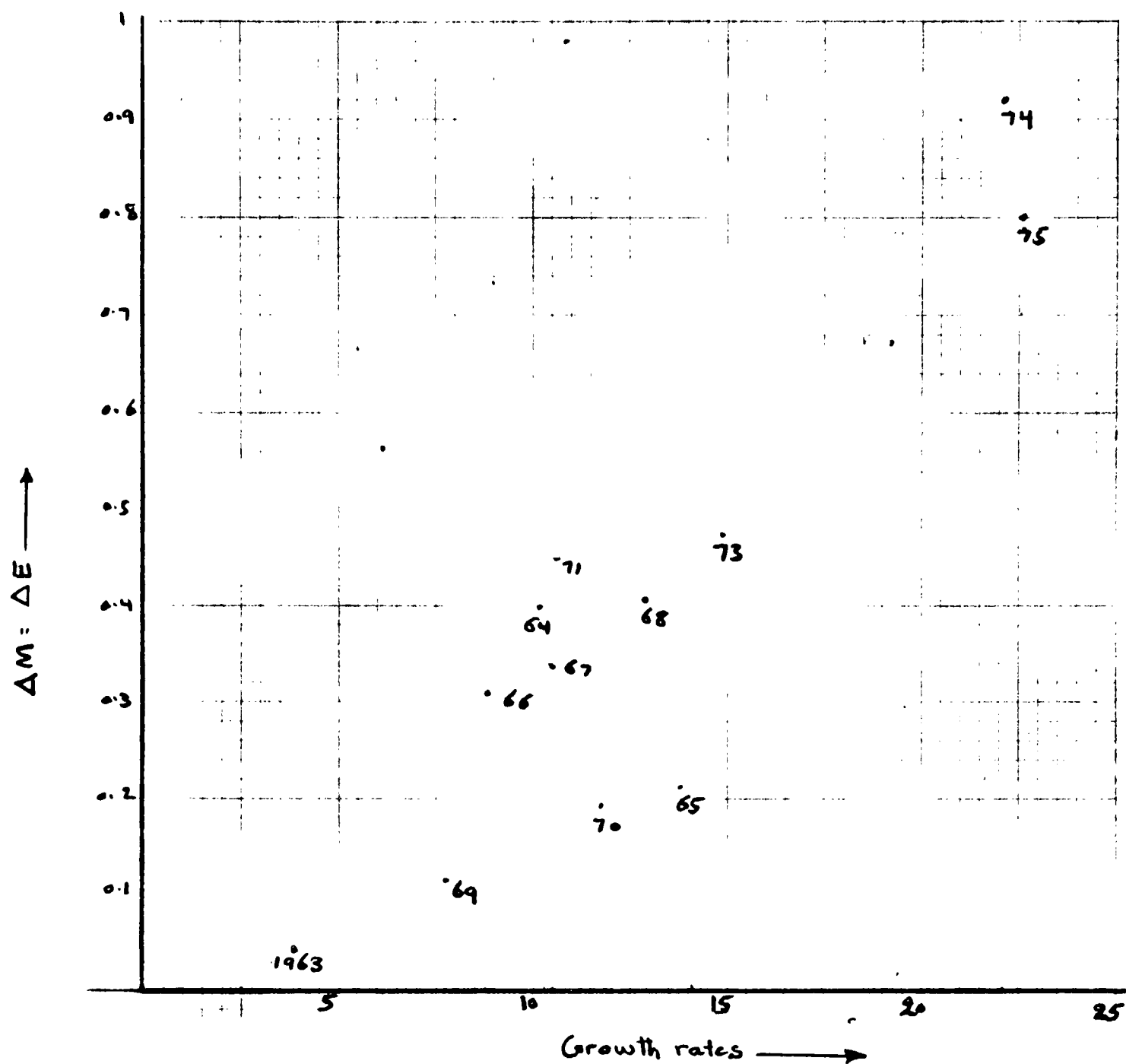


Chart 5.1 The relation between $\Delta M / \Delta E$ and the rate of growth in expenditures.

Source: Table A.5.1.

E = Domestic expenditures in constant 1974 prices ($E = C + DFI$)

M = Imports in constant 1974 prices.

Despite all these problems, Chart 5.1 shows that there is, roughly speaking,¹ a positive relation between the incremental ratio of imports to domestic expenditures,² and the rate of growth in expenditures in real terms.

We could not find any clear-cut trend in $\Delta NG/\Delta M$ over time, as the rate of growth of no-oil output changed. Even when we omitted the output of agriculture it did not help much.³ Agriculture depends, ^{in Iran,} on imports less than the other sectors; besides, fluctuations in output are severe due to changes in climatical conditions. However, the data are not entirely useless; a comparison of the incremental ratios for the period before the price rise with those of the following period provides us with a clue. In fact, Table 5.2 shows that generally speaking the ratios were substantially smaller for the period after the price rise, particularly for 1974 and 1975, as compared with the previous period.⁴ We attribute such changes after 1971 to the desire for acceleration of output and expenditure in that period. The table also indicates that though exclusion of agriculture decreases the ratio, the conclusion on the comparative magnitudes is still valid.

It is natural that acceleration of expenditure would increase the ratio of imports to domestic expenditure because of limited domestic productive capacity. However, imports should contribute to growth in non-oil output because they provide investment goods, raw materials, and even the skilled

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1. The data for 1976, 1977, and 1972 were omitted. The data for the first two years are preliminary, and those for 1972 are distorted because of change in the method of estimating national expenditure (see Appendix A.4).
 2. To allow for changes in relative prices, all magnitudes involved in the ratio are calculated in real terms. Note that current consumption expenditures are in retail prices of domestically produced and imported items, except armaments, but import prices are C.I.F. prices; also note that domestic inflation has been greater than imported inflation.
 3. Nevertheless, the relation appeared, if anything, to be negative (see Charts A.5.1.i and A.5.1.ii).
 4. Years 1972, 1976, 1977 were omitted for the reasons given in footnote 1. above.

Table 5.2

$\Delta NG/\Delta M$ before and after the first oil price rise¹

<u>Year</u>	<u>Ratio</u>		<u>Year</u>	<u>Ratio</u>	
	<u>Incl. Ag.</u>	<u>Excl. Ag.</u>		<u>Incl. Ag.</u>	<u>Excl. Ag.</u>
<u>Before the price rise</u>			1970	3.5	3.01
1964	1.55	1.37	<u>After the price rise</u>		
1965	3.51	2.83			
1966	2.09	1.79	1971	1.52	1.65
1967	2.49	1.92	1973	1.67	1.85
1968	1.72	1.34	1974	0.55	0.41
1969	4.99	4.46	1975	0.59	0.54

1. All relevant variables are in constant prices.

Sources: Table A.5.1.

labour necessary for expansion of productive capacity. Why then should

$\Delta NG/\Delta M$ fall as drastically for the 1973-75 period? It could have many reasons.

We could think of three: limited physical capacity to import; acceleration of consumption, therefore imports of consumer goods; and scarcity of non-traded 'supply determined' goods and services necessary for investment.

The physical capacity

While the country ran a surplus on the balance of payments throughout the period of the Fifth plan, the physical capacity to import limited the supply of imported goods. The volume of imports passed through the customs posts increased by an annual average rate of about 29 per cent between 1971 and 1977 and by about 41 per cent in 1974-75. None the less, congestion and delays at

the ports and customs posts were also considerable. As is shown in Table 5.3, the waiting time for ships in the main ports of the country¹ was quite long in 1975 and prolonged further in the following year. What is more, even when goods were unloaded there were further delays for customs clearance and inland transport.

Table 5.3

Waiting time for cargo-ships unloading in the main ports

<u>Ports</u>	<u>Share in unloading (1976)</u>	<u>Waiting time (days)</u>	
		<u>mid 1975</u>	<u>late 1976</u>
Bandar Khoramshahr	34.3	5	7.5
Bandar Shahpure	30.7	3 - 3.3	4.3 - 6.3
Bandar Abas	18.4	1.7	1.3 - 4.3
Bandar Busheh	6.2	2.3	2.7

Sources: Column (1), M.A.I. St. Y.B. 1977, p. 511, based on Port and Shipping Organisation; others: MEED, 19 Nov. 1975, p. 58, 26 Dec. 1978, p. 15, 26 March 1976, p. 27, 30 April 1976, p. 22.

The situation was not much better in land transport. For example, in mid 1975 the number of trucks waiting for clearance at the customs post of Bazargan, on the Turkish-Iranian border, amounted to about 5,000.²

The limited physical capacity to import contributed to a decline in the $\Delta NG/\Delta M$ ratio in two ways. Firstly, the delays and lags created problems for the expansion of production capacity and output. Lags in supply of capital

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1. About 80 per cent of the total volume of imports are handled by sea transport.
 2. MEED, 28 Nov. 1975, p. 18.

goods, raw materials and spare parts all contributed to inability to expand capacity, or to utilisation of the existing capacity. Secondly, port congestion and crowded customs posts caused an increase in import costs and the physical waste of the imported items in the ports. Official estimates of the costs involved are not available. However, according to one unofficial estimate, in 1975 surcharges by ships and trucks were estimated at about \$1 b. and \$250 m. respectively;¹ together they constitute about 11 per cent of the value of goods imported in the same year.² Moreover, it is believed that a great deal of perishable goods were spoiled in the ships, docks or customs posts.

Imports of consumer goods and services

The demand for imports of consumer goods and services was bound to accelerate fast after the rise in the price of oil because of acceleration of consumption, explained earlier, accompanied by limited domestic supply. Under the conditions of limited physical capacity to import, rapid acceleration of demand for imports of consumer goods affects both the numerator and the denominator of the $\Delta NG / \Delta M$ ratio. As regards the numerator, the acceleration of demand for imports of consumer goods competes, in terms of physical capacity to import, with imports of goods necessary for the acceleration of output, i.e. investment goods, intermediate goods and raw materials. Note that because of their urgency or perishability, priority was given to imports of consumer goods.

Unfortunately, the disaggregated data on imports, according to the type of use, are not comprehensive or satisfactory. The data on consumer goods are not comprehensive because they do not include non-commercial goods such as

1. F.T., 13 Jan. 1976, p. 4; and MEED, 26 Dec. 1975. The Turkish Government also increased the transit fee by about five times in the same year.
F.T., op. cit.

2. Based on Table A 5.3.

armaments. They are unsatisfactory because imports of many consumer goods are excluded from the data, and are included either in intermediate goods, or in capital goods. Many imported goods are included in intermediate goods which go through no processing, or little processing, in Iran. Imports of some food items, such as wheat, unpacked tea, etc., which constituted a significant proportion of non-commercial imports in recent years provide one example. Unassembled industrial consumer goods is another. Indeed, both should have been included in the data on consumer goods. Similarly, imports of some consumer goods, such as passenger cars, are included in investment goods. Despite all these deficiencies, Table 5.4 confirms the belief that the annual growth rate of volume of consumer goods was substantially larger than that of

Table 5.4

Relative importance of growth of volume of imports of consumer goods, 1972-75 (%)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Growth rate of imports of consumer goods	74.5	10.9	81.4	90.6
Growth rate of total imports	21.6	14.3	39.1	42.4
Share of consumer goods in total	6.5	6.3	8.3	11.1

Source: Table A.5.4.

the average for total imports, except for one year.

One may challenge our argument on the grounds that despite the rapid growth in consumer goods their share in total imports has not been large enough to create problems for imports of other goods. The answer is that the ratio should not be taken seriously for the reason just given. In fact, when we allowed for imports of foods and passenger cars and their imported parts, let

alone other items, the share of consumer goods in the total mounted to over 30 per cent, from 11.1 per cent, for 1975.¹ If one also allows for 'intermediate goods' used in construction activities, mostly unproductive expenditures, the ratio would rise even further. Obviously rapid increases in imports of these commodities also put pressure on the physical import capacity and limits prospects for imports of goods necessary for other productive activities.

The acceleration of imports of consumer goods and services also increases the denominator of the $\Delta NG / \Delta M$ ratio. The foreign exchange required for imports of these commodities increases without a significant contribution to the expansion of output. Both private and public sectors tend to have contributed to expansion of demand for foreign exchange for imports of those goods and services. Unfortunately we do not have comprehensive disaggregated data on the types of goods and services imported by each sector. We may consider the main consumer items for which the data are available. While the value of imports of commercial consumer items increased by about seven-fold between 1972-77 and foreign exchange payments for travelling abroad by about eight times over the same period, imports of armaments increased by over six times over 1972-76 for which I had access to data.²

Another factor which limits the role of imports in growth of non-oil output, and in mitigating inflation, is the incapability of imports to remedy shortages of non-tradeable 'supply-determined' commodities. This point leads us to the next section.

5.3 Non-tradeable Supply-determined Industries: Electricity

We concentrate on the problems of electricity because its shortage created

1. Based on Table A.5.4 and on M.A.I., Foreign Trade Statistics for 1975, Series No. 762, p. 2.

2. Based on Tables A.5.2 , A.5.3 and A.2.14.

a greater difficulty than those of other non-traded supply-determined industries.¹

For the sake of our argument, the problems of the imbalance between supply and demand for electricity may be classified into two general categories: those related to supply, and those related to demand. On the supply side, the most important feature of electricity, as an industry, is that it was a non-traded supply-determined industry in Iran. Bearing this fact in mind it seems that the revision in the planned rate of growth of supply (and demand) from 110 to 155,² for the period of the plan, was over-ambitious. In fact, the same source indicates that even the original planned rate was not achieved. Nevertheless, the fast expansion of final demand for electricity, which was strongly influenced by the Government policy on consumption as a whole, limited expansion of the supply to the productive sectors. Let us explain in more detail.

Electricity is 'supply-determined' not only in the short-run, but also in the medium-run. The country possesses neither the technical capacity to produce power generators, nor sufficient skilled manpower to install and operate the imported generators for a rapid expansion. Even if one assumes, wrongly, the absence of organisational problems, skilled manpower and other bottlenecks, one should consider various time-lags between the time of planning for the expansion of production capacity and the time of its realisation. There is an organisational time-lag between planning and ordering the generators abroad; a technical time-lag between ordering and completion of generators in the manufacturing company; a delivery and transport time-lag between completion

1. For example, for the fall in output in the industrial sector caused by shortage of electricity in 1977 see MEED, 27 July 1977, p. 17 and Tehran Economist (in Farsi) 1, Mordad 1977, p. 6. The shortage affected all industries in Tehran. Furthermore, in late July about 50, and in August and September another 180, factories were closed in Tehran. It also affected industries in the provinces; the machine tool industry, and cement industry being among those hit.

2. Based on Table 5.5.

and delivery; finally, an installation time-lag between delivery and starting the operation. Altogether these lags could well exceed two years. Furthermore, if there are, as there have been, shortages of skilled manpower, lack of harmonisation in the expansion of production capacity and the distributional network, limited organisational capacity, and port congestion, then the construction period, i.e. the period necessary for the expansion of production capacity, will increase.

These lags and shortcomings create two problems for the rapid expansion of electricity supply, as follows. Firstly, they put a ceiling on the rate of growth of supply within the time span of a medium-term plan, i.e. five years. In fact they explain the failure of the economy to achieve the unrealistic planned rate of growth of 155 per cent over the period of the Fifth plan. Secondly, further short-term shortages may arise due to the fact that expansion in the production capacity is a step function of the type depicted as a broken line in Chart 5.2. On the contrary, the demand for electricity increases continuously over time, as is shown by the solid curve in the same figure. As a result, imbalances arise between the demand and supply and widen over time. Note that t , in the figure, represents years and T is the period of construction. To continue, the above proposition can be shown as follows: $r_f < r_p$; and $(r_f/T) < (r_p/n)$; where $T > \text{one year}$, and r_f , r_p and n represent the feasible rate of growth, the planned rate of growth, and the period of the plan respectively.

In fact, Table 5.5 indicates that the installed capacity did not expand evenly over time for the period shown. This can explain the severe black-outs of 1975 and 1976.

One may wonder why the rate of growth in production over the period of the Fifth plan was even smaller than that for the Fourth plan; and why the

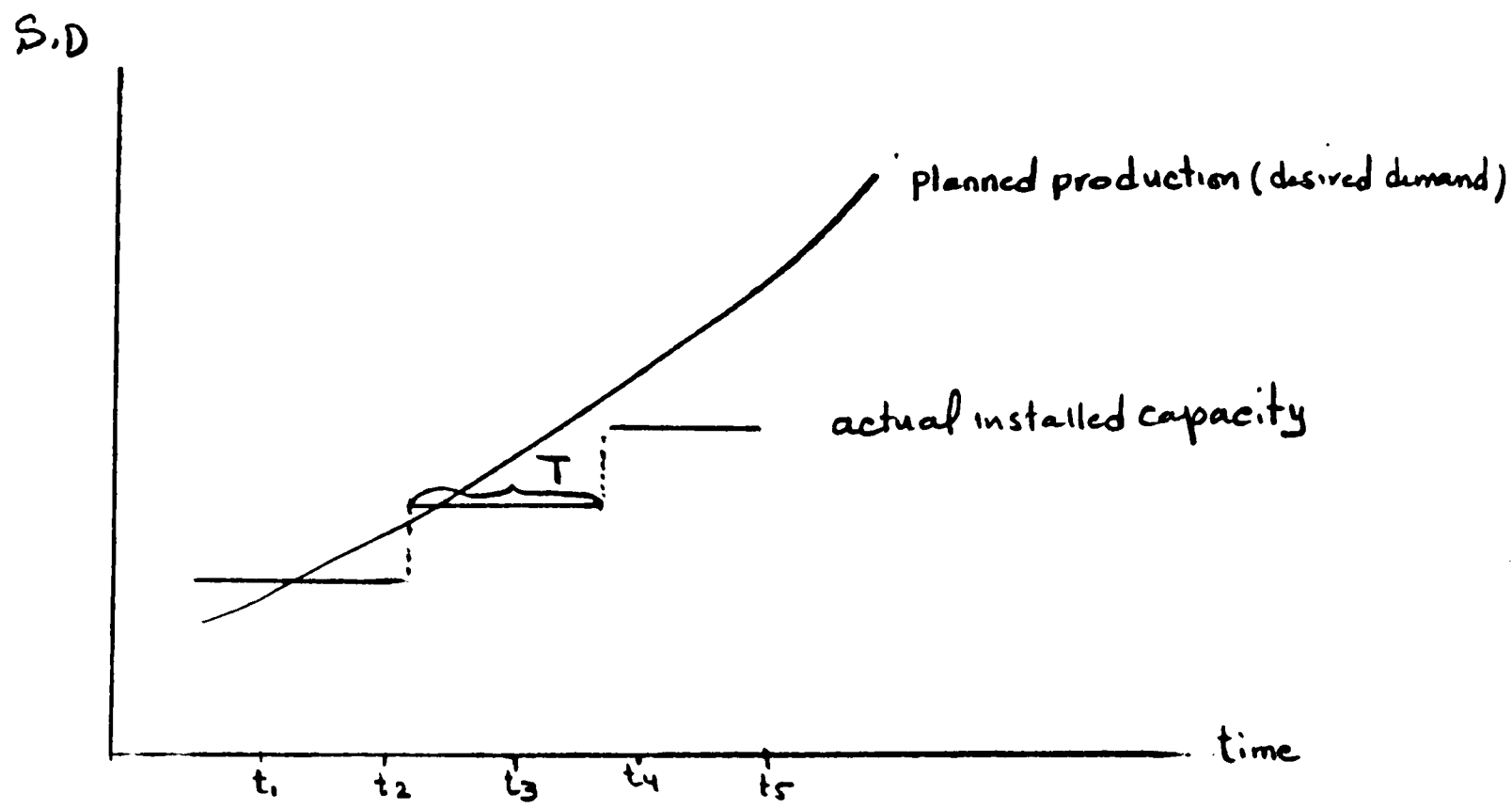


Chart 5.2 Supply and demand for electricity.

growth in production over the period of the Fourth plan exceeded the relatively large planned rate.¹ To answer this question there are two points to be mentioned. Firstly, the base of installed capacity at the beginning of the Fourth plan was far smaller than that in the beginning of the Fifth. It is one thing to achieve a certain rate of growth from a low base and quite another to achieve the same rate from a higher base.

Table 5.5
Growth in installed capacity and output ^{of electricity} compared with planned figures (1973-77)

	<u>Installed capacity</u>		<u>Target growth² rate of</u>
	<u>volume¹</u>	<u>growth rate (%)</u>	<u>output (%)</u>
<u>4th plan (1967-72):</u>			
1971	3117		
1972	3354	7.6	22
<u>5th plan (original):</u>			
1973	4117	22.7	22
1974	4580	11.2	22
<u>5th plan (revised):</u>			
1975	4850	5.9	37.5
1976	5130	5.8	37.5
1977	7060	37.6	37.5
1973-77		16.1	{ Revised 31 Original 22

1. 1000 kilowatt.
2. Those of 1973 and 1974 are from the original text.

Sources: Actual figures: Vezarate Niroo, Sanate Bargh 1976, p. 1, 1977, p. 1; planned figures are based on 4th plan, p. 41; 5th plan, The Summary, p. 44, 5th plan revised, The Summary, p. 137.

1. See Table 5.5.

Secondly, it is true that the planned rate of growth in production was achieved over the Fourth plan, but in fact the planned rate of growth in production capacity, i.e. installed capacity, was not achieved.¹ None the less, a shortage of electricity did not arise because immense excess capacity was left over from the Third plan.² In addition, consumption of energy did not increase as planned. This was mainly due to delays in the construction of such large projects as steel mills.

Given the rate of growth of production of electricity, one way to increase the supply of electricity to the productive sector for industrial use is to limit the growth in final consumption of electricity. Yet, this is not very feasible, when household income in general is accelerating fast, without taking other measures, such as taxation, to restrict consumption in general.³ Final consumption of electricity consists of domestic consumption and public use, e.g. street lighting, etc. The Government made some attempts to limit both over 1974-76. According to Table 5.6, though public use was restricted, domestic use in fact accelerated quite fast over 1975-77. As a result, supply to industry decelerated significantly over the same period, as compared with the previous years, as is shown in the same table.

The rapid acceleration of domestic consumption of electricity is understandable. Electricity is a highly income-elastic commodity at an early stage of development. Not only does consumption by those who are already consumers

-
1. The installed capacity fell short of the planned figure by over 20 per cent (based on B.M.I. An. Rep. 1972, pp. 80-1).
 2. The excess capacity of the generators belonging to the Ministry of Energy was 28 per cent of the capacity in 1967, and declined to 24.4 per cent in 1972 (based on Ministry of Niroo, op. cit., 1976, p. 9).
 3. Note also that in the period 1968-77 the consumption of electricity by households has increased faster than that of the private consumer expenditures in general (compare figures in Table 5.6 and Table 8.1).

Table 5.6

Growth in various uses of electricity (1967-76) generated by the Ministry of Energy

	<u>%</u>				
	<u>1967-72</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Industrial use	38.6	41.3	20.2	11.1	9.8
Final consumption:	19.4	46.1	9.1	24	19.6
Domestic use (households)	20.6	16.8	13.8	23.3	28.8
Public use	19.2	42.8	-3.8	19.1	-11
<u>Total</u>	31.3	36.2	17.4	14.1	12.3

Source: Table A .8.5.

increase as income increases, but also rapid urbanisation raises the number of consumers at a fast rate.¹ We know that growth in both - income of urban dwellers and urbanisation - has been significant in recent years. Moreover, it is worth mentioning that the relative price of electricity has declined over time due to the Government's price fixing policy. This must have helped a rapid increase in consumption of electricity.²

In brief, though supply inelasticities have made increase of production capacity difficult, the shortage of supply to the productive sectors was partly due to rapid growth in the final consumption. Bearing in mind that the Government was responsible for the rapid acceleration of private consumption in general, as is explained in Chapter 8, here again the burden of the responsibility is on the Government. Once again expansion of consumption

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1. Consumption of electricity in rural areas is still negligible because the electricity network has not expanded over the rural areas; only about 2700 villages out of over 50,000 are provided with electricity (Vezarate Niroo, op. cit., p. 68).
 2. There seems hardly a difference between the value added in electricity in current prices and in constant prices, over the last 15 years. (See Tables A.4.1. - A.4.4.)

appears to have been detrimental to growth in non-oil GDP, though this time it hampered the growth indirectly.

5.4 Agriculture as a Supply-determined Industry

5.4.1 General argument

Agriculture is another supply-determined industry which has limited diversification, i.e. growth in non-oil GDP. As explained before, agriculture has been a 'lagging' sector not only in the Fifth plan, but also in the previous period.¹ The Government aimed at a slower growth of agriculture, in relation to other sectors of the economy, in all plans concerned.² Furthermore, except for the period of the Third plan, the achieved growth rate fell short of the target. The actual and target average annual percentage growth rate of that sector were 4.2 and 4 respectively for the period of the Third plan, 3.4 and 4.4 for the Fourth plan, and 4.6 and 5.7 and 7 for the Fifth plan.³ Even for the Third plan the relevant figure is very probably a statistical artifact, made up by the authorities of the central Bank. In fact an earlier estimate of the growth rate was 2.8 rather than 4.2.⁴

Relatively slow growth of agriculture, in relation to the other sectors of the economy, is not confined to Iran. In fact it is a common phenomenon in almost all developing countries. A group of development economists suggests that slow growth in demand for agricultural commodities is responsible. The demand for agricultural commodities, it is maintained, grows slowly because of the effects of Engel's law on food consumption.⁵ This argument, however, seems

1. See Chapter 1, pp. 17-19, 22-24.

2. Based on Table A .4.5.

3. Ibid.

4. The plan organisation, 3rd Dev. Plan, Final Report (Teh, 1970), p. 5, based on B.M.I.

5. For a survey of the literature on agriculture and diversification see Johnston, B.F. (1970).

irrelevant to the case of Iran at least, as we will show briefly.

Kalecki focusses on the supply side and argues that agriculture suffers from supply rigidities. These rigidities, he affirms, are mainly related to the institutional obstacles to the development of agriculture. Such institutional obstacles, he adds, are the feudal or semi-feudal pattern of land ownership, where land reform is not implemented, and the lack of credit facilities even where land reform is implemented. We believe that direct allocation of funds to agriculture by the Government is also necessary to

- i) provide the necessary infrastructure, irrigation networks, agricultural services and marketing facilities; and
- ii) to compensate for the lack of willingness on the part of the private sector, or the ability of peasants to invest in some agricultural activities. Moreover, the Government should provide necessary incentives, apart from credit to the private sector and peasants.

The theme of this section is that the agricultural sector could have expanded faster had it not been for the lack of willingness by the Government to allocate enough funds and adopt policies to remove the rigidities and to provide the right institutional set-up, infrastructure and incentive. The lack of willingness was related to two main factors. Firstly, the very availability of oil revenues, which increased the flexibility in satisfying demand through imports, helped to neglect agriculture. Secondly, the Government was not under political pressure to expand agriculture faster. Oil revenues allowed the Government to undertake land reform which defused the power of the landlords. Nevertheless, the peasants had little political power in the Government apparatus to influence the bureaucracy to allocate funds to agriculture and provide it with the right incentives. We have examined the direct allocation of funds by

the Government elsewhere in this thesis. Here we will consider other Government policies. Though Government policies may have contributed to the sluggish growth of agriculture in many ways, we will concentrate on two incentives which we think were the most important: price incentives and credits. It was in the interest of the Governmental group and the urban-dwellers to mitigate increases in the prices of the main food items through price fixing, increase in domestic supply by imports and subsidisation. We will show however, while the burden of price fixing has been mainly borne by the peasants, subsidies were paid for imported items rather than the domestically-produced products. It will be revealed that the combination of these policies has led to deterioration of the inter-sectoral terms of trade against those agricultural commodities. It has also led to negative protection¹ i.e. negative tariff on imports of those items. More importantly, the attraction of agricultural labour by construction activities in the urban areas contributed to rapid escalation of wage costs, which constitute the bulk of costs in that sector. Despite the increase in costs, the supply of credits by the Government to agriculture has been relatively small compared to the other sectors.

5.4.2 Agriculture and demand

Slow growth of agriculture does not appear to be due to the effect of Engel's law. For the sake of this argument we may classify agricultural commodities, according to their use and their market, i.e. the source of their demand. According to their use agricultural commodities include: food items and productive inputs. The demand for agricultural commodities also includes

1. The term is employed here to show the relative importance of subsidy i.e. negative import tax; it should not be confused with the conventional use of the term in the literature which measures protection of the domestic value added usually dealt with in the industrial sector.

two components: domestic demand and international demand. Traditionally Iran has exported mainly cotton,¹ and food items have satisfied almost entirely the domestic market.

Generally speaking the domestic demand for agricultural commodities increased rapidly after the rise in the price of oil, as is implied by Table 5.7 which shows changes in the net imports of agricultural commodities over the relevant period.²

Table 5.7

Trade in agricultural commodities (1963-76)

	Value (Rl.b.)			Volume (1000 tons)		
	Imports	Exports	Net imports	Imports	Exports	Net imports
1963/64	19.2	14.5	4.7	1702.5	601.4	1101.2
1970/71	33.7	24.2	9.5	2244.2	961.1	1283.1
1975/76	253.9	40.6	213.3	5592	913.3	4678.7
Growth (%): ¹						
1963/64-1970/71	8.4	8	10.6	4	6.9	2.7
1970/71-1975/76	49.7	1.1	86.3	20	-0.2	29.5

1. Average annual rate.

Sources: Table A.7.2.

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1. We can rule out the possibility that demand for exports of the productive inputs would have made a great difference to growth of agriculture. The share of exports of agricultural commodities to value added was small, less than 8 per cent in 1963.
 2. The averages for two consequent years, rather than annual figures, were compared in order to iron out fluctuations in imports, as well as exports, caused by changes in domestic supply due to climatic conditions.

Table 5.8

Imports of main food items¹ in recent years

	Value (Rl.b.)	Volume (1000 tons)
1970/71	18.2	1754.6
1975/76	156.7	4647
Growth rate (average annual %)	53.8	21.5

1. Wheat, barley, corn, rice, meat, fats, sugar, and tea.

Source: B.M.I. An. Rep., 1973, p. 188, and B.M.I. (1977), Table 2.

Assuming that there was no fall in domestic production, it seems that growth in demand was considerable despite the possible operation of Engel's law. Moreover, comparison of Tables 5.7 and 5.8 reveals that, for example, over 1970/71-1975/76 imports of main food items in fact grew much faster than the imports of agricultural commodities in general which also include non-food items.

In brief, growth of demand was not slow; so it could not be responsible for the slow growth of agriculture in Iran for the period concerned.

5.4.3 Government intervention in agriculture

The history of serious Government intervention in the market for main food items in Iran is, by coincidence, almost as old as the history of oil exports. The Government started intervention in the market for wheat and barley in 1916. The aim was to prevent severe fluctuation in the price of these commodities in the interest of the city dwellers. More recently the Government expanded the sphere of its intervention. In 1968 a serious intervention in the meat market was launched. Later, after the rise in the price

of oil, Government intervention covered almost all other staple food items, including rice, dairy products, eggs, and fats. The method of intervention has taken various forms in different periods. None the less, in more recent decades, it has consisted of three main elements: price fixing, purchase and sale, importing, and subsidisation. For major items, such as wheat, meat and chicken the Government undertakes all these policies. It buys relevant commodities at a fixed 'purchase price' domestically, or imports and sells them directly to retailers, or their agencies, at a fixed 'sale price'. The fixed prices are infrequently changed.¹ For other commodities, it only fixes prices; or in some cases directly imports and sells them at a subsidised price. Note that in no circumstances had the domestic producers been subsidised until very recently. In the case of domestic products the burden of price fixing is borne by the producers. By contrast, in undertaking all these policies the Government has taken care of the interests of the consumers in the main urban areas.²

Unfortunately, we could not deal with agricultural commodities as a whole in examining the effects of those policies on price incentives to agriculture. This is because a great deal of the data necessary were considered strictly confidential by the authorities. We succeeded, however, with great difficulties, in getting hold of basic data for wheat and some data for red meat, which are two main agricultural commodities³ and have a longer history of intervention than the others. Hence we will concentrate on those. Let us mention that in

1. As an example see the case of wheat in Table A.7.1.

2. The Government does not sell commodities in the rural areas and small towns.

3. In 1972, wheat covered over 57 per cent of the areas under cultivation; and meat constituted about 15 per cent of agricultural output (M.A.I. Ag. Sample Survey 1972, p.khe; and M.A.I. Baravarde-Hesabhaye Meli 1969-74, unpub., pp. 21 and 34.

both cases exports are controlled by the Government. Moreover, it provides the bakeries in urban areas with cheap wheat; and has monopsony in the wholesale meat market in the urban areas where it owns the slaughter-houses. Hence, the peasants as a whole have to supply their surplus to the Government, except for the use of wheat in other products than bread.

5.4.4 The internal terms of trade

Some Iranian economists believe that the decline in the relative price of agricultural commodities, in relation to other domestically produced goods, was substantial in the final years of the Shah's reign. We will show here that while the internal terms of trade deteriorated against the main agricultural commodities, the rise in wages played a more substantial role in the slow growth of that sector.

We start with wheat for which we have more comprehensive data. Let us first mention that to measure the terms of trade involves some data problems. We need a farm-gate price index for wheat and the wholesale price index of non-agricultural commodities. Neither exists. The Central Bank's (C.B.) wholesale price index of wheat (W.P.I.W.) is constructed on the basis of the prices in the residual market¹ in the main urban areas, and it does not cover the 'official purchase price' either. We adjusted, as shown in Table A.7.1, the W.P.I.W. for the Government purchase over the period after 1973 for which the amount of purchase was significant.² Yet, we could not adjust it for the mark-up between the farm-gate price and the wholesale price (various marketing costs and profits) in the urban areas. Since this price has not been fixed it

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1. By the residual market we mean the part of demand not satisfied by Government's sale. This is the demand for wheat for uses other than bread in large cities, and the total demand in small towns. Henceforth, we call the equilibrium price reached at this market the wholesale price.
 2. For the rest of the period the adjustment made negligible differences because the Government purchase was small (see Table A.7.1).

is likely that the changes in W.P.I.W. over-estimate the changes in farm-gate prices.

Since the Central Bank does not publish a separate index for non-agricultural commodities as a whole, we used the index of 'Domestically Produced and Consumed Goods' (D.P.C.G.) for our comparison. Obviously, this index covers agricultural goods; however, it is the nearest index we could choose for our purpose.

To allow for the cost of production of wheat we were also faced with lack of data on input cost indices. The production costs include labour costs, rents, and costs of machinery and seeds as well as fertilisers. Since labour costs constitute the bulk of the total costs,¹ we may consider wages of unskilled construction workers in the urban areas as a rough indicator of labour costs, or the opportunity labour cost of the peasants working in agriculture, and employ the relevant index as a token for changes in the input costs.

Chart 5.3 depicts various indices and leads us to the following conclusions. First of all, despite some improvement in early years, the terms of trade deteriorated against wheat noticeably over 1959-77 to the tune of about 20%.² If the base year is changed from 1959 to 1965 the figure rises to about 38 per cent on the basis of the same source. To explain the deterioration it seems that the Government has been mainly responsible particularly for the sale of wheat at a low price. Whenever the wholesale price tended to decline, e.g. 1966-68 (Chart 5.3), due to a good harvest,³ the Government did not make any attempt to jack it up by increasing

1. For example, according to a survey undertaken by the M.A., in 1970 wages constituted about 41 per cent and 47 per cent of costs of production of wheat in irrigated land and dry cultivation, respectively. (See M.A. (1970), pp. 12-13.)

2. As Chart 5.3.

3. See Table A.3.1.

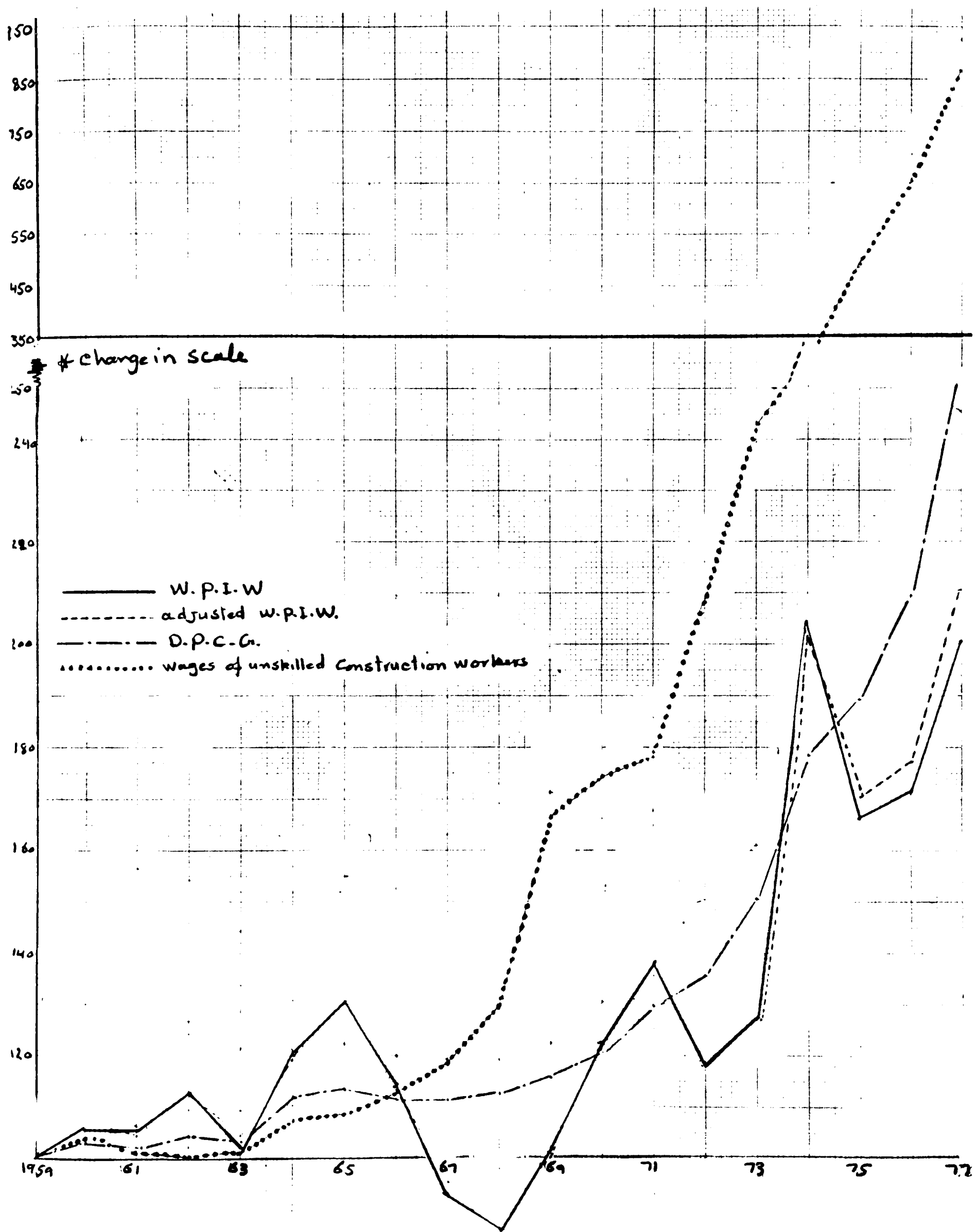


Chart 5.3 Comparison of changes in the wholesale prices of wheat, domestically produced and consumed goods, and wages in agriculture (1959-77).

Sources: Tables A.7.1 and A.7.3.

the purchase. Ironically, it even exacerbated the situation in some periods by increasing supply, basically out of the imported wheat¹ which was subsidised as we will show shortly. In contrast, whenever the wholesale price tended to rise 1959-62, 1963-65, 1972-74 (Chart 5.3), the Government dampened the price. It supplied the market with a relatively large quantity,² at a fixed low price, which was infrequently changed. The increase in the official sale price has been sluggish as compared with W.P.I.W. In fact, it has not increased more than 30 per cent, as against over 100 per cent for W.P.I.W. over 1959-77.³ Bearing in mind the relative importance of the Government sale, in relation to production, the Government sale policy, unlike purchase policy, must have had significant dampening effects on the wholesale price index.

Secondly, the chart indicates some periodical improvements in the terms of trade, e.g. 1971, 1974, in addition to the improvement over 1959-65. Nevertheless, these should not be taken too seriously because they could not compensate for the significant deterioration over the previous years e.g. 1950-59. If we consider the price index of wheat in Tehran as a rough indicator of the price index of wheat for the whole country, comparison of columns (2) and (3) in Table 5.9 reveals a noticeable (about 25 per cent⁴) deterioration of the terms of trade in 1959 as compared with 1950 which was a normal year as far as climatic conditions and output are concerned. That deterioration is not compensated for by the periodical improvement in the

1. Loc. cit.

2. Sale net of purchase.

3. See Table A .7.1.

4. The difference between the two indices divided by W.P.I.W.

Table 5.9

Index¹ of wheat, grain and D.P.C.G. (1949-1959)

	Wheat		D.P.C.G. index	Grain price index
	Price ²	Price index		
1949	6010	140.2	115.7	135.4
1950	4288	100	100	100
1951	3887	90.6	106.8	96.6
1952	n.a.	n.a.	114.3	106.4
1953	4280	99.8	137.1	108.8
1954	5103	119.1	160.8	125.9
1955	6423	149.8	150.4	148.3
1956	7027	163.9	161.2	169.5
1957	6500	151.6	168.1	153.7
1958	5740	133.9	176.9	143.7
1959	6404	149.6	189	169.5

1. The base for the original figures for grain and D.P.C.G. were 1936 = 100.

2. Rial per tons; the average of the monthly wholesale prices in Tehran.

Sources: Wheat - based on various issues of Bank Meli Iran.

terms of trade for wheat even in their best relative position i.e. 1965 when W.P.I.W. exceeded D.P.C.G. by about 13 per cent.

The above conclusion seems valid unless our assumption on the relation between the price index of wheat in Tehran and that of the country as a whole is wrong. To examine that assumption we displayed the wholesale price index of grain and cereals for the country in Table 5.9. Bearing in mind that the prices of other cereals - flour, rice and barley - were not controlled by the Government,

comparison of column (2) and (4) in the table indicates that our assumption seems plausible. In fact, the deterioration in the terms of trade of wheat seems to have been significant enough to worsen the terms of trade of grains and cereals as a whole over the period of the table (compare columns (3) and (4)).

Thirdly, and more importantly, it appears that after 1966 the decline in the relative price of wheat has been accompanied by a drastic rise in wages and other costs without a noticeable change in yields. In other words, the unit cost of production has risen. The unit cost may decline because of a decline in costs, per acre, for a given yield, or an increase in yield for a given costs, or a combination of both.¹ None of these happened. Chart 5.3 shows that there was a shocking jump in the wage index as compared with the wholesale price index of wheat, particularly after 1971. Accordingly, over 1971-77 alone, the wage index increased by about five times, as compared with about 50 per cent in the case of W.P.I.W. Moreover, there are some indications that other costs also increased rapidly. According to one survey, between 1970 and 1977, the price of fertilisers rose by about 28 per cent, and tractors by 51 per cent.² According to the same source, the costs of production per acre of wheat increased by about three times.³

Furthermore, despite the substantial increase in costs, the yield has not changed noticeably. In fact, Table 5.10 shows that on the basis of 1960 Agricultural Census and recent sample surveys, changes in the average yield, yield in irrigated land, and in dry cultivations - all have been

1. Trade theorists invented the concept of 'single factorial' terms of trade for that purpose. It is the multiplication of the relative price by relative productivity.

2. B.M.Ī. Baravardē Niaze Etebarate Keshavarzi dar Iran (mimeo, unpubl., 1978), p. 34.

3. Ibid.

Table 5.10

Yield per hectare for wheat in various years (kg)

	1960	1968	1970	1971	1972	1973	1974	1977
Total	728.7	803	800	649	804	718.7	483	804
Irrigated land	1182.1	n.a.	n.a.	1298	1410	n.a.	n.a.	n.a.
Dry cultivation	481.9	n.a.	n.a.	423	575	n.a.	n.a.	n.a.

Sources: 1960: 1960 Agricultural Census, vol. 15, The Summary Report, p. 39; 1971 and 1972: M.A.I. Netaiegē Amar Giriē Keshavarzi, Ser. No. 358, p.khe, and Ser. No. 768, p. 4 ; and M.A.I. G.S., 1977, pp. 209, 271.

negligible.¹

In brief, there has been considerable deterioration in the terms of trade of wheat against other commodities, and a substantial increase in the cost of production.

Meat and other commodities

In the case of meat as well, the change in the cost of production seems to have been more significant than the deterioration in the terms of trade, though the latter also appears noticeable. According to Table 5.11, the terms of trade have deteriorated about 5 per cent since the beginning of Government intervention in the wholesale market in 1969. In fact, the deterioration in the terms of trade must have been greater than that because the price index of meat in the table excludes the official purchase price. This price was not only lower than the wholesale price at the start of the intervention but it

1. In fact if one takes a longer view, there has been a substantial decline in the yield in recent decades; the average yield for 1934 was 1070 kg (1934 Agricultural Census, Tehran, M.A. 1935, p. 6). The decline in the yield seems to have been due to the decline in the ratio of irrigated land to total area under cultivation of wheat.

has fallen over time. For example, in Tehran the official purchase price was set about 5 per cent lower than the wholesale price in the previous year, and it fell further, by 13.5 per cent, over 1969-76.¹

Table 5.11

The price index of meat and domestically produced and consumed goods (D.P.C.G.)
1968 = 100

	1970	1971	1973	1975
Meat	98.2	100.1	126.6	157.3
D.P.C.G.	105.2	112.9	131.3	165.3

Sources: Table A.8.3 and B.M.I.

Nevertheless, once again it seems that the cost increase has been more substantial than the deterioration in the terms of trade. Apart from wages already considered, there are some indications that other costs have also increased sharply. For example, in 1970 alone according to one estimate, the costs of animal foods, basically imported, increased by about 2.5 times.² Furthermore, the rise in current costs seems to affect meat production more seriously than wheat, and other crops, because in the former case current costs constitute a higher proportion of total costs.

Now, two questions arise: why were wheat and meat sold to the Government despite low purchase prices; and to what extent can one generalise the conclusions on the terms of trade and costs?

1. B.M.I., A report on meat production (Teh. mimeo. 1971, in Farsi), pp. 11, 12 and Table 9. The price was decreased from Rl. 88.9 per kilo in 1969 to Rl. 84.3 in 1970, to Rl. 83.3 in 1971 according to the same source. It was reduced to 76.5 in 1972, and it has been fixed since then (Institute of Meat, the Record Office).

2. Ibid., p. 8.

To answer the first question, in the case of meat the Government has absolute monopsony over the market; all slaughter-houses belong to the Government. In the case of wheat, in fact the purchase was negligible except for recent years when the official purchase price was increased and perhaps became more attractive than the price paid by local traders. Moreover, export of both meat and wheat were directly controlled by the Government.

Regarding the costs of production the conclusion can be generalised, more or less, to all agricultural commodities. The increase in labour cost was common to agricultural commodities as a whole. Moreover, according to one sample survey, the unit cost of crops as a whole rose by 3.7 times over 1970-77.¹ By contrast, the wholesale price of foods and live animals increased only by about 97 per cent over the same period.²

The terms of trade issue is more complicated to generalise. Government intervention in the market for other commodities started more recently. Nevertheless, for two reasons the fall in the relative price of wheat and meat has had a negative effect on agricultural output. Firstly, they were the main items in agricultural commodities, as mentioned earlier. Secondly, substitution of other agricultural commodities for these items was difficult. In particular, in the case of wheat the bulk of dry cultivation is not suitable for other products. In the case of meat, animal rearing takes place mainly by the tribal community³ and in small scale animal husbandries by peasants. In either case the alternative to meat production is engagement in the construction sector in the urban areas which is a good attraction for migrant labour. Here there is no Government control, either on wages or prices.

1. See B.M.I. Baravarde Niaze Etebarat, op. cit., pp. 42-3.

2. Based on data provided by B.M.I.

3. In 1971 according to one estimate about half of the stock of herds belongs to various tribes (B.M.I., A report on meat production, op. cit., pp. 1-2).

One may argue that the decline in the relative price of agricultural commodities was necessary to provide an incentive for shifting resources from agriculture to other sectors, expansion of which was given priority by the Government. Let us postpone the answer to this argument to the end of this section.

5.4.5 Subsidisation and negative tariff on imports

The decline in the relative prices of wheat and meat in relation to other domestically produced goods was not the only impact of Government intervention in the market for those commodities. The Government was also biased in its subsidy policy against domestic products as compared with the imported items.

The data on the finished costs i.e. 'silo-gate price' of imported wheat are not available for the whole period concerned. The finished costs consist of the C.I.F. price and the inland transport and other delivery costs from the ports to the silos. We have compared the C.I.F. price of imported wheat, with the 'Government purchase price', which is a silo-gate price of domestically produced wheat, and the wholesale price in Table 5.12; and calculated, in Table 5.13, the finished cost of imports for the two years for which we could obtain the necessary data. One may distinguish two periods: after 1973, and before. For the former period even the C.I.F. price, let alone the finished cost, is greater than both the 'Government purchase price' as well as the wholesale price, which was itself affected by Government price control policy. Even if we consider the difference between the C.I.F. price and the official sale price as a measure of subsidies paid to imported wheat, the data suggest that in contrast with the domestically purchased items imports were heavily subsidised. Accordingly, subsidies on imported items amounted to

about 50, 53 and 57 per cent of C.I.F. prices in 1974, 1975 and 1976, respectively. By comparison, the subsidies paid to producers for domestic items¹ constituted only about 6, 21 and 23 per cent of the purchase price in the same years. Obviously, the figures for imported items do not include the inland transport and delivery costs i.e. they are not silo-gate prices. Nevertheless, even that amount of subsidy resembles a negative tariff; correspondingly, the domestic production was negatively protected by the

Table 5.12
Comparison of various prices of wheat 1963-1976 (Rl. per ton)

	<u>C.I.F.</u>	<u>Gov. purchase</u> ¹	<u>Wholesale</u> ²
1963	5458.4	5500	7067
1964	5918.9	5500	8197
1965	4955.1	5500	8613
1966	5415.1	5500	7142
1967	5323	5500	6200
1968	5264.7	5500	5890
1969	-	5500	6675
1970	7376.7	5500	7700
1971	5791.2	5500	8735
1972	6163	6300	7479
1973	6054	6500	8021
1974	14634.6	8000	12882
1975	15750.6	9000-10,000	13185
1976	17610.8	9000-10,625	12705

1. Those of 1963-1971 are the average of various grades.
2. In Tehran.

Sources: Wholesale prices: as Table 5.9 except 1971-1976 which are calculated on the basis of the price in 1970 and the W.P.I.W. based on Table A.7.1 ; others: Tables A.7.1 and B.M.I. (1973, 1977), based on foreign trade statistics.

1. The difference between the official purchase and sale prices.

Table 5.13

Costs of imported wheat in 1965 and 1970

	1965	1970
1. Purchase price plus transport and insurance costs	<u>4955.1</u>	<u>7376.7</u>
2. Added: interests	n.a.	169.8
3. banking commissions, stamps and communication costs	n.a.	20.3
4. unloading	40	40
5. C.I.F. price	4995 ³	7606.8
added: inland costs:		
6. customs services	152.1	189
7. sanitary services	n.a.	27.1
8. waste ¹	77.7	56
9. bags depreciation ²	135	135
10. inland transport to Tehran ⁴	1015	1000
11. Total inland costs	<u>1379.9</u>	<u>1407.1</u>
12. Finished (silo-gate) price	<u>6374.9</u> ³	<u>9013.9</u>
13. Purchase price of domestically produced wheat	5000	5500
14. (12) as percentage of purchase price	127.1	163.8

1. That of 1970 estimated by the author assuming 1% of weight.

2. Estimated by author assuming that 13 bags are used for transporting one ton of wheat, and that each bag is used four times.

3. Excludes items 2, 3 and 7.

4. From Shahpoor Port.

Sources: Relevant files, Record Section, the Iranian Institute for Grain and Bread, and Table A.7.1.

difference between the C.I.F. price and the 'official purchase price'.

Accordingly, the relevant rate was 45.4 per cent in 1974, 39.7 per cent in 1975 and 44.3 per cent in 1976.

It is true that the increase in the C.I.F. price was initiated by a price boom in the international market in 1974, and we are not suggesting that any fluctuation in the international market should be transferred, as a rule, into the domestic market. In this particular case, however, two points are worth mentioning. Firstly, as Table 5.12 suggests, the rise in the price persisted beyond 1974. Secondly, and more importantly, the domestic costs were also escalating rapidly as explained in the previous section. Under such conditions sufficient adjustment of the price structure, e.g. through an increase in the official purchase price, in the form of subsidies, seems to have been essential for the expansion of output.

For the period before 1973, Table 5.12 does not indicate negative protection.¹ Nevertheless, even over that period the Government was biased against domestic production in its price policy. To explain, according to Table 5.13, even in 1965 the finished costs of the imported wheat was noticeably greater than the purchase price, despite the fact that the finished costs shown in the table, for that year, do not include some items for which data were not available. According to the same table, the discrepancy widened substantially in 1970. Moreover, for that year the comparison of the finished cost of imported wheat and the official sale price suggests that the imported items were subsidised by about 34 per cent,² while the domestic producers did not receive any subsidy at all.³

For meat we have compared various prices, to the extent that we could obtain relevant data, in Table 5.14. The table indicates that while at the

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1. Note that the C.I.F. price is underestimated for items shown in lines (3) and (4) in Table 5.13, though the discrepancy does not seem to be substantial.
 2. In relation to the finished costs (based on Tables 5.12 and A.7.1).
 3. In fact, the purchase price was less than the sale price (see Table A.7.1).

beginning of the intervention by the Institute of Meat in the market, 1969, small subsidies were paid to domestic product and its official purchase price was slightly greater than the estimated finished costs of imported items,¹ the situation drastically changed later on. As is shown in the table, in 1977 the domestic purchase prices were smaller than the sale prices, but the imported items were heavily subsidised, and their finished costs were far greater than the domestic purchase price. In other words, the imported items enjoyed considerable negative tariff, and domestic products were subject to negative protection of the magnitudes shown in the table. We do not have enough data to judge what happened in the interval, i.e. between 1969 and 1977. Bearing in mind, however, that the sale prices were kept fixed over 1972-77, that the purchase price was decreased gradually between 1969-1975 and kept constant over 1975-77,² and that the price of imported items presumably rose almost continuously; comparison of the data for 1977 with those of 1969 suggests a growing bias, in Government policy, against relevant domestic products.

Though we do not have data on other commodities, it seems that the finished costs of other main agricultural products imported by the Government, listed earlier, may have also been greater than those of domestic prices fixed by the Government. Otherwise, the authorities would not have had to subsidise the imported products.

Considering the fact that the industrial sector enjoys a positive protection, negative protection of agriculture, and more importantly the bias in favour of imported products, decrease the incentive to invest in agriculture. According to one estimate, the nominal rate of protection of consumer goods, in

1. The 'other costs' of imported items for 1969 are estimated by this author assuming that the margin between the C.I.F. price and the finished cost was the same as that of 1977, i.e. 12.8 per cent of the C.I.F. price.

2. My interview with the authorities of the Institute of Meat.

Table 5.14

Various prices of fresh lamb and beef (1969, 1977)

	<u>Imported (Rl. per kg)</u>					
	<u>Lamb 1977</u>		<u>Lamb 1969</u>		<u>Beef</u>	
	<u>Aust.</u>	<u>Rumanian</u>	<u>Aust.</u>	<u>Turkish</u>	<u>1977</u>	
1. C.I.F. price	125.2	210	64.4	74.4	140	
2. Other costs ¹	16.1	18.9	8.2	6.7	16.7	
3. Finished costs of imports	141.3	228.9	72.6	81.1	156.7	
	<u>Other prices (Rl. per kg)</u>					
4. Sale price	83.5-90		78		125	
5. Purchase price of domestic product	76.5		88.8		78.85	
6. (3-4) : 3 (% subsidy)	63.1*	163.7*	-7	4	25.3	
7. (3-5) : 3 (% negative protection)	84.7	199	-17.3	-8.7	92.6*	

* Simple average of the relevant ratios.

1. For 1977 includes: custom services, and banking charges and interests of Rl. 0.25 and Rl. 1.5 per kg. respectively; transport cost 10.4 per kg (Rl. 13 per ton-km. for 800 km from ports to Teh.); and inland insurance and waste 1.2% and 2% of the values, respectively. For 1969 the costs of Australian and Turkish meat are estimated by this author assuming the relevant margins were equal to those of Australian and Rumanian in 1977, respectively.

Sources: 1969, B.M.I. A report on meat production, op. cit., table 9; 1977 Institute of Meat, the record office except for row (2) which is based on author's interview with the officials of the Institute of Meat.

the manufacturing sector, was 164 per cent in 1970.¹ The counter argument could be raised that when expansion of manufacturing is given priority, a corresponding incentive must be provided relative to agriculture, and even the provision of right price incentives would not lead to investment in agriculture; or even if it did, it would not bring about expansion of agriculture because of

1. The effective rate was 317 per cent. Though intermediate and capital goods enjoyed smaller protection, the relevant rates were still considerable (see Sadigh (1975), particularly pp. 128 and 288).

the alleged supply inelasticity in response to prices. To answer the first point, provision of incentives for the expansion of infant industries, however necessary it may be, should not imply that agriculture is to suffer negative protection. This will lead to a gradual destruction of this sector, the underutilisation of its resources, namely land, and dependence on imports, rather than provision of incentive for manufacturing. Moreover, since the Government aimed at the acceleration of growth in agriculture, even though its pace was to be slower than the other sectors, achievement of the target growth rate would require provision of necessary incentives.

The answer to the second point is that supply inelasticity is a short-run phenomenon. Moreover, provision of the right price incentive is only one element in a set of policies required for expansion of output in the long run. In the long run, one may regard agricultural supply as inelastic only when it has been shown that enough funds were injected into the sector, necessary services and infrastructure were provided, and a suitable institutional set-up introduced. At any rate, it is useless to argue what would have happened had the Government carried out all these policies. None the less, if the estimated growth rates of agriculture are correct, their achievement despite lack of enough incentives implies that the performance of this sector has not been bad in relation to developing countries as a whole.¹ That relative achievement may be attributed to the more favourable position of Iran in terms of funds and facilities as compared with those countries, implying a positive response on the part of that sector. Further, as far as the willingness of farmers to invest is concerned, there are some indications that demand for funds in the agricultural sector has been substantially greater than the means of finance provided by the Government. This is explained below.

1. See p. 17 of this thesis.

5.4.6 Agricultural credits

Government credit policy was also biased against agriculture. Despite undertaking land reform, the Government did not take serious measures to expand expenditures in the rural areas for provision of necessary infrastructures, agricultural services, and removal of other physical and institutional obstacles to the development of that sector. Nor did it take serious measures to expand credit facilities over the rural areas. Moreover, the escalating costs of production and the use of the bulk of agricultural credits obtained for other purposes limited the impact of increase in the credits on output in that sector.

Rapid expansion of agriculture was a stated objective of the Government. The capacity of peasants to provide the surplus needed for rapid growth of agriculture is small because of their low savings. Hence the peasants should be supplied with funds originating from outside that sector. Apart from direct Government investment, which we will consider later on, the Government could have persuaded the private bankers to spread the banking system over the rural areas. Similarly, it could have compensated for lack of willingness of the private sector to lend to agriculture.

Nevertheless, private banks were not spread over the rural areas, and those located in the urban areas rarely provided credits to peasants. Though a couple of public banks¹ and rural co-operatives granted some credits to agriculture, they did not compensate for lack of willingness on the part of the private banks to allocate credits to agriculture, and this sector, unlike the other sectors of the economy, did not enjoy any abundance of credits. In fact, Table 5.15 shows that despite their rapid expansion over 1972-77, agricultural loans have been small in relation to total credits provided by the banking system. More importantly, they have also been small in relation

1. Agricultural Credit Bank and Ag. Dev. Fund. The latter was established in 1973 and started distributing credits in 1974.

Table 5.15

Total agricultural loans and credits in various years (Rl.b.)

	<u>1967</u>	<u>1972</u>	<u>1977</u>
1. Banking system (public)	15	28.9	175.1
2. Ag. co-operatives	4.2	9.6	30.1
3. Total (1 + 2)	19.2	38.5	205.2
Share in total private sector credits ¹ (%)	11.4	10.7	11
As a percentage of current costs	24.6	-	66.6

1. Total credits provided by the banking system to the private sector.

Sources: B.M.I. Economic Research Office; and M.A.I. Salnamah 1977, p. 239, Table 49 and p.30; Vezarate Keshavarzi, "estimation of agricultural costs for 1967-1968," mimeo, 1970, p. 32; and B.M.I. "Niazhayeh etekary Keshavarzi dar Iran", mimeo, 1978, p. 44.

to the needs of peasants. Accordingly, the credits could not even cover the needs for variable costs.

As a result of the lack of supply of credits by the Government, peasants were left at the mercy of money-lenders. The high rates of interest paid by the peasants to money-lenders is strong evidence for the need for credits and the lack of supply by the Government. It is believed that the rate of interest paid to money-lenders was, in some cases, as high as 200 per cent a year in the last decade.¹ Even in more recent years, the average

1. See B.M.I. Lecture series (1968), p. 82. According to the same source in 1967, in various villages of Khorasan between 61% to 77% of loans obtained by farmers was financed by money-lenders.

rate of interest in the informal market has been greater than 25 per cent.^{1,2}

Though the Government charged the borrowers in the agricultural sector a lower rate of interest than the other sectors, the supply of credit was limited and the conditions laid down for obtaining the loans were most unfavourable. For example, the method of guarantee required was particularly obscure. The applicants had to provide urban properties as guarantee; properties located in the rural areas were not accepted.

Yet relatively rapid expansion of the credits over 1972-77 has raised a question: why has agricultural output not responded to such a rapid expansion? To answer, first of all over that period the output expanded faster than the previous decade, though it fell short of the target rate.³ Moreover, the following factors should be considered: the bulk of agricultural credits obtained was not used in agriculture; in real terms expansion of the credits was not so great; there were also other physical and institutional obstacles to expansion of agriculture.

For the purpose of our argument we may divide agricultural loans into large and small, according to their size, and short-term and long-term according to the length of the period of the loans. The period of the loans also determines, to a great extent, their use. Short-term loans are provided to finance variable costs; long-term loans are supposed to be used for financing fixed investment. The Agricultural Development Fund (A.D.F.)

1. B.M.I. (1978), p. 16, based on a study undertaken by P.B.O. in 1974 on a number of villages.

2. One way of obtaining credit by farmers was pre-sale of crops at a price between 20% to 40% lower than the price at the harvest time (see Shafaeddin (1973), pp. 186-8).

3. See p. 134 of this section.

provides large and long-term loans, while the Agricultural Co-operative Banks (A.C.B.) and Rural Co-operatives provide mainly small loans - short-term and long-term.¹ To start with, while over 1972-77 loans supplied by A.D.F. counted for 36.3 per cent of the increase in total loans granted to agriculture (i.e. R 166.6b),² a significant proportion of those loans³ was utilised in non-agricultural activities. For example, in 1976, over 26 per cent of the loans were directed to downstream activities (processing, marketing, etc.) rather than to agriculture itself.³ Furthermore, it is believed that a part of the loans obtained was employed in such activities as construction. Finally, it is also believed that the part utilised for agricultural activities was basically used for changes in the technique of production in favour of capital intensive methods.

Though smallholdings constitute the bulk of land ownership⁴ in Iran and peasants suffer from lack of credits, small loans did not increase as rapidly as large loans. The former increased by 3.8 times, from Rl. 38.5 b. in 1972 to Rl. 144.7 b. in 1976, as against 5.3 times for all agricultural credits.⁵ Here again, it seems that all the loans obtained were not employed in expansion of output. According to a study undertaken on a number of rural co-operatives, in 1973 only 37 per cent of the loans obtained from rural co-operatives were deployed for agriculture, the rest being apportioned either for consumption, because of extreme poverty of peasants, or for repayment of debts to money-lenders.⁶

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1. In 1974 the average size of loans of A.D.F. in 1975 was Rl. 36.4 m.; that of A.C.B. was Rl. 129516 and that of co-operatives Rl. 18611 (based on B.M.I. An. Rep., 1976, p. 177, and M.A.I. Salnamah 1977, pp. 235 and 239).
 2. Based on Table 5.15 and B.M.I. An. Rep. 1977, p. 178. Note that the share of A.D.F. in total credit in 1973 was nil.
 3. Includes equity participation, by the Fund, in private companies. Figures are based on B.M.I. An. Rep. 1976, Table 48.
 4. According to M.A.I.'s Agricultural Survey of 1972 about 84 per cent of holdings were less than 10 hectare, 15.9% between 11 to 100 hectare, and only 0.3% over 100 hectare.
 5. Based on Table 5.15 and the sources of the same table.
 6. Based on a report of the Plan Organisation cited in B.M.I. (1978), pp. 16-17.

One must bear in mind moreover that the increase in the agricultural credits was, to a great extent, offset by the mounting costs of production. In fact, even in 1977 total gross short-term loans constituted a small proportion, about 10 per cent, of the estimated variable costs of production.¹

Yet again, credits are not the only element needed for expansion of agriculture. There are also some areas, such as agricultural infrastructure, irrigation, marketing and agricultural services in which direct Government expenditure is required. Nevertheless, the Government neglected such areas as is explained in Chapter 7.

* * *

To summarise this section, the slow growth of agriculture has not been due to alleged slow growth in the demand for agricultural commodities. That the supply has not expanded sufficiently seems to have partly been due to rising costs, particularly wages, accompanied by lack of price incentives and credits. The problem of labour costs leads us to the next section which deals with shortages of labour in the economy as a whole.

5.5 Scarcity of Skilled Labour

Shortage of labour, particularly skilled labour, was another factor which limited growth rates in all sectors of the economy over the period of the Fifth plan. Unfortunately the data on actual demand for labour are not available to analyse the problem of labour shortage in detail. However, we will make an attempt to provide the reader with some ideas on the extent of the labour shortages. It will be argued that the data on the supply of labour

1. Ibid., p. 3.

indicate that the revision in the target rate of growth of non-oil GDP in the Fifth plan seems to have been a mistake. Further, once again Government policies have been responsible not only for wrong planning but also in failing to mitigate the shortage. We will show that while the burden of the labour shortages has been on the main productive sectors of the economy, again 'unproductive'¹ activities limited the supply of labour to the other sectors. Moreover, it will be argued that the deficiencies of the Government's manpower policies were mainly due to the failure of the planners and policy makers to relate manpower policy to the long-run diversification strategy, depletion policy, education, choice of technique, and employment. The Government relied on the use of expatriate labour as the solution to the shortages, neglecting its limits and its difficulties. The possibilities for training and increasing the activity rate, as solutions to labour shortages, were limited, but the Government did not pay enough attention to education and training and did not adopt policies which could have increased the activity rate of women.

5.5.1 The problem

To start with, it seems that the burden of labour shortage has been on the main productive sectors of the economy. While shortage of skilled labour limited growth in the modern sectors, i.e. in the urban areas, shortage of unskilled labour was felt chiefly in agriculture. Table 5.16 compares the planned increase in demand for, and the actual increase in, the supply of labour to various sectors for the period of the Fifth plan. The figures on the supply suffer from some deficiencies. For example, the age coverages for 1972 and 1976 differ,² and the data do not cover the whole period of the plan -

1. For the definition see Chapter 2, p.50

2. See footnote 1 at the bottom of Table 5.16.

Table 5.16

The increase in the planned demand and actual supply of labour over the Fifth plan, 1973-77

	<u>1000 persons</u>		
	<u>Planned demand</u>		<u>Actual supply</u> ¹
	<u>Original</u>	<u>Revised</u>	
Agriculture	-59	129.6	-721.9
Manufacturing and mining	760	846	} 320.7 ²
Oil and gas	n.a. ³	12.5	
Water and electricity	10	44	14.4 ⁴
Construction	320	528	641.4
Services	<u>400</u>	<u>551.9</u>	<u>840.9</u>
Total	1431	2112	1152.9

1. 1972-76; those of 1972 are all employed work force of over 6 years of age; those of 1976 are the employed work force of over 10 years of age.

2. Excludes gas.

3. Included in Manufacturing and Mining.

4. Includes gas.

Sources: The 5th Plan, revised, a summary, p. 36; The 5th Plan, a summary, p. 16, and Table A.8.2.

Table 5.17

Planned manpower for 1973-77 (1000 persons)

	<u>Demand</u>	<u>Supply</u>	<u>Shortages</u>	
			<u>No.</u>	<u>%</u>
1. Engineers	36.4	20.3	16.1	2.2
2. Technicians	116.6	75	41.6	5.8
3. Skilled and semi-skilled labour	810	250	560	77.6
4. Social services	331.5	251.2	80	11.1
Teachers and trainers	(287.9)	(230)	(37.4)	(5.2)
5. Administrative	279.5	266	13.5	1.9
6. Unskilled	<u>538</u>	<u>528</u>	<u>10</u>	<u>1.4</u>
Total	2112	1390.8	721.2	100

Source: The 5th Plan, revised, a summary, p. 36.

they exclude 1977. However, as far as sectoral comparison is concerned, the table provides us with some clue. Accordingly, agriculture and industry seem to have suffered from shortage of labour more than the other sectors. This seems partly to have been due to scarcity of labour in general. Yet, attraction of the workforce by construction and services also appears to have played an important role. These sectors were given priority in the revised version of the plan as comparison of the figures in columns (1) and (2) of the table suggests. Moreover, these in fact attracted more labour than planned, at the cost of agriculture, perhaps because of higher wages.¹ Expenditures on both construction and services are partly unproductive as we will explain in Chapters 7 and 8. They are unproductive in the sense that they do not serve as the means to expansion of output.² For example, residential buildings are virtually consumer durables, and Government building does not contribute to further production of goods. Some Government services, which attracted the bulk of the additional employment in the service sector, are unproductive. Military services are an example.³ Though the official data on the demand for skilled labour by the military services were not available to us, one could gauge from the extent of military expenditure, including investment in military industries and bases, that it was immense.⁴ In fact, there were advertisements in the local press for employment in the army almost every day. Further, the Government employed more than 50,000 foreign military experts after 1973 according to unofficial reports.

1. See 6.2.2.

2. For definition see Chapter 2, p. 50.

3. See Ibid. Note also that low productivity due to overmanning is another feature of employment in the public sector in Iran. Nevertheless, it is not easy to measure such waste of human resources.

4. See 7.5.

Since the agricultural work force is mainly unskilled and industry requires skilled and semi-skilled labour, we may conclude that shortage of unskilled labour (Table 5.16) hindered especially the growth of agriculture, whereas industry suffered from shortage of skilled manpower. On the basis of Table 5.17 skilled and semi-skilled manpower, i.e. engineers, technicians, and other skilled and semi-skilled labour, must have constituted the bulk of the shortage of manpower. Note also that Table 5.17 seems to underestimate the shortage of skilled manpower. The planners overestimated the supply of skilled labour, shown in column (2) of the table. Those figures are based on the assumption that the country had the necessary capacity for teaching and training. Not only does the same table indicate a shortage of teachers and trainers, but the figure on the supply of these groups shown in the table itself is too optimistic.¹

5.5.2 Manpower policy

At any rate, it is clear from Table 5.17 that ^{some} shortage of skilled labour, however underestimated, was predicted by the planners. Nevertheless, it is not clear why the target growth rate of non-oil GDP was revised upward from the original rate considering the shortage; or how the economy was to overcome the shortage given the target rate of growth. Bearing in mind that, even in the original version of the Fifth plan, the demand for labour exceeded the predicted supply slightly, by 28,000,² it is obvious that any revision upward in the objective growth rate (of non-oil GDP), would increase the demand for skilled labour, and maybe unskilled labour, depending on the

1. For example in 1974, out of 120 teachers needed in a particular subject (by the Training Fund) for a training scheme only 50 qualified ones were found (D.T. Healey, Notes prepared for I.L.O. Mission, P.B.O., Teh. 1974, p. 10).

2. The 5th Plan, a summary, p. 12 and Table 9.12. Though the text of the plan is not clear, it is very likely that the shortage was that of skilled labour.

development strategies aimed at.¹ In any case, the shortage of skilled and unskilled labour would depend on the target rate of growth of output, its structure, and the choice of technique. In fact, manpower policy should have been linked to the overall long-term strategy of development and diversification. Manpower policy should not only have been linked to the factors mentioned above, but it should also have been related to the employment policy, education, income distribution, migration policy, population policy and last, but not least, oil depletion policy. Theoretically speaking, one long-term aim of manpower policy should be: to utilise the work force for achieving the objectives of development and diversification. In particular, the short-term aim should have been to make the best use of manpower because skilled manpower, rather than capital funds, was the scarce resource. According to these objectives, after the rise in the price of oil in 1973, the planners should have tackled two key questions as follows. First, what would be the optimal rate of growth of non-oil GDP over a long-run period, a period of a few plans, without inducing a shortage of manpower in the short-term and without damaging prospects of providing employment in the long-term, given the stock and flow of human resources, the possibilities for training, and obviously the overall objectives of development and diversification? Note that the optimal rate, so determined, also influences the optimal rate of depletion of oil resources. The second question, which is related to the first, is: what are the possibilities of increasing the supply of skilled, and maybe unskilled, manpower?

In practice the planners did not approach the issue in the way explained

1. There are two hypothetical possibilities: i) for a given structure of output and given technique of production in each sector, the demand for skilled and unskilled labour would increase proportionately; ii) any change in the structure of output in favour of those with higher K/L ratio, or any change in the technique of production in favour of capital-using industries within each sector, would definitely increase the demand for skilled labour.

above. As regards the first question, they tackled the issue back to front. Having no depletion policy, they took the oil revenues as given and determined the objective rate of growth of non-oil GDP accordingly. In other words, the objective rate of growth was determined by the most abundant resources, i.e. capital funds which were in turn basically determined by oil revenues.

Concerning the second question, the plan did not formulate an explicit policy for providing the extra labour necessary for the revision in the target rate of growth. However, the planners implicitly relied on a change in the technique of production, and on employment of foreign manpower. The technique of production was to be changed, in favour of more capital intensive methods of production particularly in agriculture. According to the data available, in the revised text of the plan as compared with the original text, the planned figures on capital-output ratios for the main sectors of the economy were changed as follows: manufacturing from 3.2 to 3.3, agriculture from 2.46 to 3.82; and electricity from 3.1 to 4.3. That of non-oil GDP as a whole was changed from 3.1 to 4.3. Similarly, the capital-labour ratio was changed, in terms of Rl. 1000, from 1719.7 to 1902 for non-oil GDP, and from 594 to 1027 for manufacturing.^{1,2}

The anticipated shortage of labour not covered by the change of techniques, i.e. the figures shown in Table 5.17, was to be covered by expatriates. Though no official data are available, it is believed that about a million expatriates, mostly unskilled, worked in Iran over 1975-77

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1. Based on The Fifth Plan, a summary, pp. 8, 9, 19, 50, 56; and The Fifth Plan revised, a summary, pp. 8, 16, 17-19, 59, 110.
 2. Note that the structure of output was also changed in favour of manufacturing, which is more capital intensive than agriculture, and services (see p. 118, Table 5.1).

either under legal arrangement, or through illegal migration.¹

5.5.3 Evaluation of the remedies

To evaluate the above-mentioned policies let us first outline, in theory, various ways in which labour shortages could have been overcome over the period of the Fifth plan, bearing in mind that unemployment was negligible in 1972. Apart from (a) the change in the technique of production and (b) the use of expatriate labour, mentioned in the previous page, the following methods, as alternative or in combination with those policies, could contribute to resolving labour shortages: c) to use the reserve surplus of labour by changing the activity rate of women; d) to increase productivity of labour by (i) a shift of labour from less productive jobs to more productive; ii) an improvement in management, and training of employed work force. Note that d(i) involves changes in the structure of output which might not be desirable, and d(ii) cannot make any substantial contribution to overcoming the shortage of skilled labour over a short period because the stock of skilled labour is not large. Generally speaking, the main contribution is to be made from alternatives (a), (b) and (c).

Increasing the activity rate

Alternative (c) could not only make a noticeable contribution to supply of unskilled labour, but it could, to some extent, mitigate shortages of workers for the jobs which require some literacy.

In 1972, the activity rate of women in general was low, about 8 per

1. Keyhan, 13 Shahrivar 1357 (1978).

cent;¹ and their literacy rate, for those over 15 years of age, was about 19 per cent. Bearing in mind that many of the active women were illiterate, comparison of the two rates indicates that a noticeable proportion of literate women have been inactive.² Perhaps there are some social problems involved in increasing the activity rate of women significantly because they have not traditionally participated heavily in economic activities. Nevertheless, it appears that the lack of necessary facilities and institutions, such as kindergartens and part-time jobs, were more important than the traditional factors for the following reasons. Firstly, in practice the activity rate of women did rise considerably to 13% in 1976 perhaps as a response to an increase in wages.³ Secondly, the increase took place mainly in the rural areas where illiteracy is higher and the traditional factor should accordingly play a more significant role. The relevant rate for the rural areas rose from 8.7 in 1972 to about 18 in 1976, but that of the urban areas from 7.2 to 9.1.⁴ In the rural areas women can usually take care of their children while working in the farm. In the urban areas the nature of jobs does not allow this; kindergartens are required, the supply of which was scarce. Moreover, the Government could have provided the women with half-time jobs. Strangely enough even in such jobs as teaching employment was on a full-time basis.

Change in the technique of production

A change in the technique of production involves two main problems:

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1. Over the age of 12 (based on M.A.I. Manpower Survey 1972, p. 14).
 2. No change in the activity rate is assumed in the revised version of the Fifth plan as compared with its original version; see relevant texts, p. 15, Table 5, and p. 34, p. 4, respectively.
 3. 1976 Census, 5% sample, p. 52.
 4. Ibid., pp. 53-54; and Manpower Survey 1972, pp. 16-18.

training, and the negative effects of the change on the prospects for employment in the long run. A change in the technique of production not only involves training of the flow of manpower in order to prepare them to work with new machines, but it also requires training of the stock of manpower. To provide the reader with an idea of the magnitude involved, assuming a recasting period of 15 years, and assuming that technique is changed only in manufacturing, and that only half of the stock of work force require training, each year about 50,000 workers should have been trained. Note that this is in addition to the yearly flow of manpower in need of training which was about 200,000 over the Fifth plan.¹ The capacity for training is however limited. It requires some education in most jobs and high educational degrees in some jobs, and availability of trainers. We have already mentioned the limits on the latter. Here let us consider, in brief, the literacy of the work force. The data on literacy are not reliable because the definition of literacy is changed from one survey to another. Another problem is that many people may pretend to be literate because they are embarrassed to admit that they are illiterate. Most of all, the concept of literacy itself is difficult to define. For example in the surveys concerned all those who can read and write an easy text are regarded as literate, but they obviously cannot undergo a training course for skilled jobs. For this reason we have shown, in Table 5.18, various levels of literacy, to the extent allowed by the data. However overestimated the literacy rate, the data suggest first of all that the literacy rate for the stock of manpower was unsatisfactory; at least two-thirds of the employed work force were absolutely illiterate in 1972. Moreover, in the agricultural

1. The Fifth Plan revised, a summary, p. 205, and Table 4 8.2.

Table 5.18

The educational level of the employed manpower shown by extent of literacy
(1972 and 1976)

	<u>Stock (1972)</u>		<u>Stock (1976)</u>		<u>Flow (1972-76)</u>	
	<u>No.</u>	<u>% in total</u> ¹	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
All levels:	<u>2541.8</u>	<u>33.3</u>	<u>3589.8</u>	<u>40.8</u>	<u>1048</u>	<u>91</u>
University level (one year and more)	117	1.5	245.5	2.8	128.5	11.1
between primary and university	523.9	6.9	1072.1	12.2	548.2	47.5
Full secondary	n.a.	?	(468.5)	(5)	n.a.	?
primary and less	1887.5	24.7	2267.7 ²	25.8	380.2	32.9
Less than 3 years	n.a.	?	(738.3)	(8.4)	n.a.	?

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- 1. In the total no. employed.
 - 2. Includes first year in the new system.

Sources: Based on Manpower Survey, 1972, p. 86, and 5% Sample of 1976 Census, p. 61.

sector, where the technique of production was supposed to change more drastically than others, the situation was appalling; in the same year over 83 per cent of the employed work force were illiterate.¹

Secondly, according to the same table the educational background necessary for skilled and semi-skilled jobs is small both for stock of manpower, in 1972, and the flow of manpower over 1972-76. In fact, the whole stock of manpower with full secondary education and beyond in 1976, shown in Table 5.18, was less than the demand, for those skilled and semi-skilled jobs

1. As Table 5.18, p. 161. The figure for 1976 was 93 per cent. The decline in the literacy can be explained by migration of the literate work force to the other sectors; otherwise it is due to data deficiencies.

which require, more or less, that level of education, i.e. 766,000.¹

The above-mentioned points denote not only the inadequacy of planning, but also the Government's neglect of education both before and after 1972. To this we will come back in a later chapter. Let us here proceed with the argument.

While change in the technique of production helps, to the extent allowed by training capacity, in overcoming shortages of labour in one or two development plans, it may have negative effects on prospects for employment in the future. The greater the target rate of growth of non-oil GDP, the more the technique of production should be shifted to overcome labour shortages. The greater the shift in technique, the larger will be the increase in labour productivity.² Now assume that after a period of one or two plans the supply and demand for labour are in equilibrium, and the economy enjoys no surplus in the balance of payments resulting from the jump in the price of oil. Then to keep the economy at full employment, the rate of growth of output should keep pace with the rate of growth of population of working age plus the rate of increase in labour productivity. The greater the capital-labour ratio, the larger the means of finance necessary for creating each job. As long as oil revenues grow fast enough to provide necessary foreign exchange and sources of investment, unemployment will not arise. Nevertheless, oil revenues will slacken off one day; the country cannot enjoy a positive rate of growth of oil revenues as an easy source of finance for ever. In such a situation, unemployment may become

1. The sum of rows 1, 2, 4 and 5 of column (1) in Table 5.17.

2. Note also that the technique of production in the modern sector is already capital intensive. Moreover, the change in the technique will perpetuate itself. It increases income inequality, so it changes the pattern of demand further in favour of luxury goods which are, generally speaking, capital intensive.

a serious problem unless one assumes that the reduction in oil revenues, or the rate of growth in oil revenues, is compensated by a corresponding rise in the ratio of savings to GNP. In Chapter 8 we will explain that in practice such a condition seems very unlikely to materialise.

Expatriate labour

Use of some foreign manpower is unavoidable, because local manpower lacks the knowledge to operate imported machines of complex technology. Nevertheless, reliance on foreign labour to overcome substantial shortage of manpower involves some problems as follows. Firstly, not all skills are tradeable. For example, shortage of teachers can not be overcome by imports of labour because of their lack of knowledge of the local language. Secondly, while expatriate labour increases the supply of labour they have both positive and negative effects on inflation. To explain: the expatriates include unskilled and skilled, the unskilled ones usually occupy manual and low prestige jobs, e.g. domestic servants, which the local workers are not prepared to do, with the same or a lower wage. Many Asian workers who worked in Iran are of this category. By contrast, the professional and skilled expatriates usually demand wages larger than those paid to local workers. Such wage differentials increase demands for higher wages through a sort of demonstration effect. In fact this happened, for example, in the cases of engineers, technicians, and even construction skilled workers, let alone military experts. Moreover, foreign labour puts pressure on public utilities and housing. Indeed, it is believed that the sharp rise in housing rents in large cities, particularly Tehran in 1974-75, was partly caused by expatriate labour.

Finally, expatriate labour may create social frictions. In particular, the problems of expatriation could become serious if structural unemployment

of the kind explained earlier, arises.¹

To summarise this section, it seems that in view of the problems involved in a large shift in the technique of production and in employment of foreign labour, and considering that the potential supply of labour fell short of the planned demand even in the original version of the Fifth plan, the revision in the objective rate of non-oil GDP ^{does not} seem to have been plausible. Nevertheless, the Government could have adopted policies to increase the activity rate of women to the greatest extent possible thus adding to the supply of labour in general. Moreover, had it not been for expansion of 'unproductive activities', the supply of labour to the productive sectors, particularly agriculture, would have been greater. Finally, many of the problems of training would have been less acute had the Government paid more attention to education both before and after the rise in the price of oil.

* * *

To conclude this chapter, it appears that despite availability of foreign exchange and rapid expansion of imports, acceleration of non-oil GDP was limited by the physical capacity to imports, non-traded 'supply-determined' commodities, slow growth of agriculture, and shortage of both skilled and unskilled labour, particularly the former. It seems that because of the physical obstacles to acceleration, revision upwards of the planned rate of growth of non-oil GDP after the 1973 price rise was not justified. Nevertheless, it would appear that the Government policies were not consistent

1. This point has become irrelevant after the revolution (1979) because the bulk of the expatriates left the country. However, it will become relevant again if ever the Government plans to use expatriates for the acceleration of growth.

with the objective of acceleration of the increase in productive capacity either. In fact, not only did the Government fail to mitigate those obstacles but it exacerbated them. In particular, acceleration of the rise in consumption and unproductive expenditures put further pressure on the physical capacity to import, and the limited supply of non-traded commodities to the productive sector. Similarly, fast expansion of construction dragged labour from agriculture and contributed to the shortage of labour and rising wages in that sector. Further, while imports increased the supply of food, they allowed the Government policies to maintain a bias against that sector because its rapid expansion was not felt necessary.

In addition, failure of the Government to accelerate the rate of growth according to the plan was accompanied by inflation, i.e. the contribution of imports to mitigation of inflation was also limited. We will return to this issue in the following chapter.

Chapter 6

Inflation and Foreign Exchange

6.1 Introduction

It was shown in the previous chapter that despite rapid expansion of imports the acceleration of non-oil GDP was limited. Here we will argue first of all that the contribution of imports to mitigation of inflation was also limited. We mentioned in the first chapter that inflation accelerated rapidly despite a serious price control scheme, tax relief, reduction in import duties and payments of subsidies on the basic items. The inflationary pressure was in our view one of the important economic factors which contributed to the collapse of the Shah's regime due to its resultant social tension, particularly because it was accompanied by considerable deceleration of output and by some unemployment. We will make an attempt to explain causes of inflation.

The case of Iran provides an occasion to consider the problems of inflation in the light of the controversy between 'monetarists' and 'structuralists'.¹ Elements of 'demand-pull' and 'cost-push' - both seem to be at work to increase prices. The imbalances between supply and demand in the commodity and labour markets, explained in the previous chapter, make inflation inevitable. The supply of goods cannot match money income, despite availability of foreign exchange, because of delays and lags caused by limited physical import capacity and lack of infrastructure as well as limits on the supply of non-traded supply determined commodities. Removal of the physical limits is not easy in the short-term, due to structural backwardness. As a result, the imbalance between the supply and demand contributes to increase in prices, and to costs. A wage price spiral is initiated. Moreover, the imbalance in the supply and demand for labour, particularly skilled labour, also contributes to 'cost-push'. None the less, on both 'pull' and 'push' sides the political factors are once

1. There is also 'Scandinavian school' to which we will refer briefly in a moment. For a recent survey of the literature on inflation see Frisch (1977).

again actively at work. On the 'pull' side, the Government's expenditure policy, income policy, and tax policy exacerbated inflation. To mention one policy here, injection of money to the sectors which increased income without contributing to production, or to constraint removals, was immense. On the 'push' side, the sudden increase in wages in the public sector, after the rise in the price of oil, as a response to the expectations and vested interest of the Governmental group, contributed to, if it did not initiate, the increase in wages in other sectors. We allocated section (2) to these issues.

Increased wages, accompanied by a fixed exchange rate, allowed by oil revenues, particularly if accompanied by a relatively slow rise in productivity, result in 'creeping revaluation' which has an adverse effect on the prospects for diversification in general and for non-oil exports in particular. Some light will be shed on this matter in the third section.

6.2 Inflation¹

6.2.1 Theoretical background

The monetarist view is derived from the Quantity Theory of Money and presented in more sophisticated form in the last decade. The core of this theory is that the rate of growth in money supply, per unit of national product, can explain the rate of inflation. The increase in the supply of money, it is maintained, causes domestic demand pressure on the productive capacity and leads to inflation.²

1. No exact definition of inflation is available. To be clear, we define inflation as a continuous increase, of more than 3 per cent, in prices and wages. The price level is measured by the consumer price index, or the Non-oil GDP deflator. Hence, increases in the export price of oil are not included.

2. See e.g. Friedman (1971).

The monetarists consider the increase in the supply of money as the only cause of inflation. By contrast, according to the early version of structuralist thoughts, while the increase in the supply of money is regarded as a necessary condition for propagation of inflation, it is not the only cause; structural factors, outlined below, are also important.¹ Moreover, while increase in the supply of money permits inflation, its reduction, rather than remedying it, leads to unemployment. In a developing country structural weaknesses are attributed both to the supply market, including the export sector, as well as the labour market. Those structural weaknesses are, it is maintained, related mainly to: downward rigidities in prices and wages; imperfect factor immobility; sluggish response to price signals, and supply inelasticities, especially in agriculture; small capacity for production of investment goods and raw materials; and finally fluctuation in export earnings as well as sluggish growth in the purchasing power of export earnings. Some of these structural weaknesses are, it is said, related to institutional factors. For example, downward rigidities in prices result from monopolistic conditions in the manufacturing sector; and wage rigidities are due to the power of organised labour and their aspiration for better living. The structural weaknesses may cause, over the course of growth, some sectoral imbalances due to unsatisfactory performance of a lagging sector, e.g. agriculture and/or due to supply bottlenecks in some industries or infrastructure e.g. transport.² The shortages cannot be overcome by imports, it is added, because of lack of foreign exchange. As a result inflation would arise and spread.

1. See D. Seers (1962). Note that some structuralists argued that inflation can arise, under certain structural rigidities, from changes in the structure of demand without any increase in the supply of money. (See Olivera, op. cit.)

2. See D. Seers, op. cit., pp. 178-82.

According to the Scandinavian School, the causes of inflation in small open economies are two: world inflation imported through the export sector; and a uniform increase in wages in the export sector and the rest of the economy despite differences in their productivity increases.¹ It is implicitly assumed that in the export sector productivity increases faster than that in the other sectors.

Generally speaking, it is not very easy to explain such a complicated issue as inflation. Many economic and social forces are at work at the same time; and one cannot put down any single factor as a cause of inflation. Furthermore, though there are always some similarities in the socio-economic features of various countries, each group of countries, or even each single country has particularities of its own. In this respect we should mention three outstanding differences between the socio-economic conditions of Iran and those of Latin American countries - which were in the mind of the structuralists in building up their theory of inflation - as follows. First, in the case of Iran, unlike Latin America, foreign exchange was ample. Second, the Government of Iran was extremely powerful in the socio-political and economic scene of the country. Third, the injection of money into the economy was financed by oil revenues.² There are some similarities between that injection and budget deficit in the form of printing money in the sense that in both cases there is no 'crowding-out effect' involved. In other words, they allow injection of funds into the economy without preceding 'withdrawals' from the circular flow of income in the form of tax or borrowing from the public.³ Never-

1. See H. Frisch, op. cit., pp. 1305-8.

2. One may also add another difference to the list. This is the fact that the labour force in Iran, unlike Latin America, was not well organised, if organised at all. However, this was basically because of the power of the central Government as a preventive force; hence it could be included in the second difference outlined above.

3. Note that because of insignificance of taxes the withdrawals are not substantial even after the injection, and forced taxation resulting from inflation caused by the injection of funds is not regarded as a withdrawal in the conventional sense.

theless, the outstanding difference is that in the case of oil an equivalent amount is available in the form of foreign exchange which facilitates increasing supplies, thus bridging the imbalance between supply and demand.

We will argue firstly that while imported inflation contributed to the inflationary pressure, inflation was largely a consequence of the imbalances between supply and demand in both commodity and factor markets. Although the imbalances emerged to a great extent because of structural rigidities on the supply side, the extreme expansion of demand also played a significant role. Secondly, despite availability of foreign exchange, the imbalances could not be bridged by imports for the reasons explained earlier, namely limited physical import capacity, lack of infrastructure necessary for distribution, and irrelevance of imports in the case of non-traded goods and services. Finally, while elements of both 'demand-pull' and 'cost-push' seem to have been at work in increasing prices, the Government exacerbated the imbalances on both the 'pull' side and the 'push' side. Most of the above-mentioned points have already been considered in the previous chapter. Here, we will try mainly to shed some light on the role played by imported inflation versus domestic inflation, by structural factors versus monetary factors, and by Government policies.

6.2.2 Some explanations

Imported inflation

To start with, though imported inflation has had some partial effect on the overall rate of inflation, its role as a cause of inflation does not seem to have been important compared to domestic factors. It is not easy to separate domestic inflation from imported inflation because the latter contributes to

the former not only directly but also indirectly, due to the fact that domestically produced goods use imported materials. Moreover, even the direct contribution is not measurable because of lack of necessary data at consumer level. We may, however, make some references to the direct contribution by using the Wholesale Price Index of Imported Goods (W.P.I.M.) and the general Wholesale Price Index (W.P.I.). It appears that the direct contribution of imported goods to the increase in W.P.I. has been, relatively speaking, small. Over 1970-77 W.P.I. and W.P.I.M. went up by 104.9 and 78.8 per cent, respectively.¹ Accordingly, allowing for their weight (0.29)² and assuming the absence of their indirect impacts, imported goods count for about 22.8 per cent, out of 104.9 per cent increase in W.P.I. Note, moreover, that for the period after the second rise in the price of oil over which inflation accelerated unprecedentedly, the increase in the W.P.I.M. was less than the increase in the W.P.I.³ The W.P.I.M. might be underestimated. The I.M.F. index of unit value of export of industrial countries in F.o.b. price, which are the main suppliers to Iran, rose by 109 per cent over 1970-77, as compared with 78.8 per cent for W.P.I.M.⁴ We may use that index as a rough indicator of the index of imported goods, in C.I.F. price, to Iran. Nevertheless, the discrepancy is not significant enough to affect the above conclusion drastically. Accordingly, the direct contribution of imported goods will increase from 22.8 per cent to 31.6 per cent. Even so, a part of the discrepancy is due to the reduction in import duties and to the introduction of subsidies paid for imported items of main consumer goods after 1973.

More importantly, over the boom period, i.e. 1973-77, when inflation accelerated, the W.P.I.M. did not increase as rapidly as C.P.I. and the wage indices (see Chart 6.2); the only exception was the deflator index of Government services in 1977.

1. Table A.8.3.

2. B.M.I., An. Rep. 1977, p. 290.

3. Based on Table A.8.3.

4. Based on I.F.S., May 1978, pp. 48-9, and March 1980, p. 48.

Structural factors versus excess demand

It seems that the change in the supply of money alone cannot explain changes in inflation. There were imbalances between the supply¹ and demand both in the commodity market and in the factor market, i.e. labour market, as explained in the previous chapter. It appears ^{however} that the main contribution to inflation was made by the imbalance in the factor market which is not considered by the monetarist school; and even in the commodity market the imbalance was due to structural factors.

The growth rates of money supply (money and quasi-money) and consumer price index (C.P.I.) are shown in Chart 6.1. Accordingly, it appears that while increases in the rate of growth of money supply are accompanied by acceleration of inflation, the decline in that rate has not led to its deceleration. In fact, both in 1973 and 1975-77 inflation accelerated rapidly despite a noticeable decline in the rate of growth of money supply. Note that it is very likely that the decline in the rate of inflation in 1975 was due to a serious price control by the Government. Hence, factors other than the supply of money must have also been operating.

The preceding results contradict those of D. Morgan of the I.M.F. who found a close relationship between the rate of inflation and the rate of changes in money supply in six main oil exporting countries throughout 1973-78² as a whole. His results may have been distorted because he took oil exporting countries as a unit instead of examining them separately.

1. By supply and demand in this sub-section we mean aggregate supply and aggregate demand respectively.

2. See Morgan (1979).

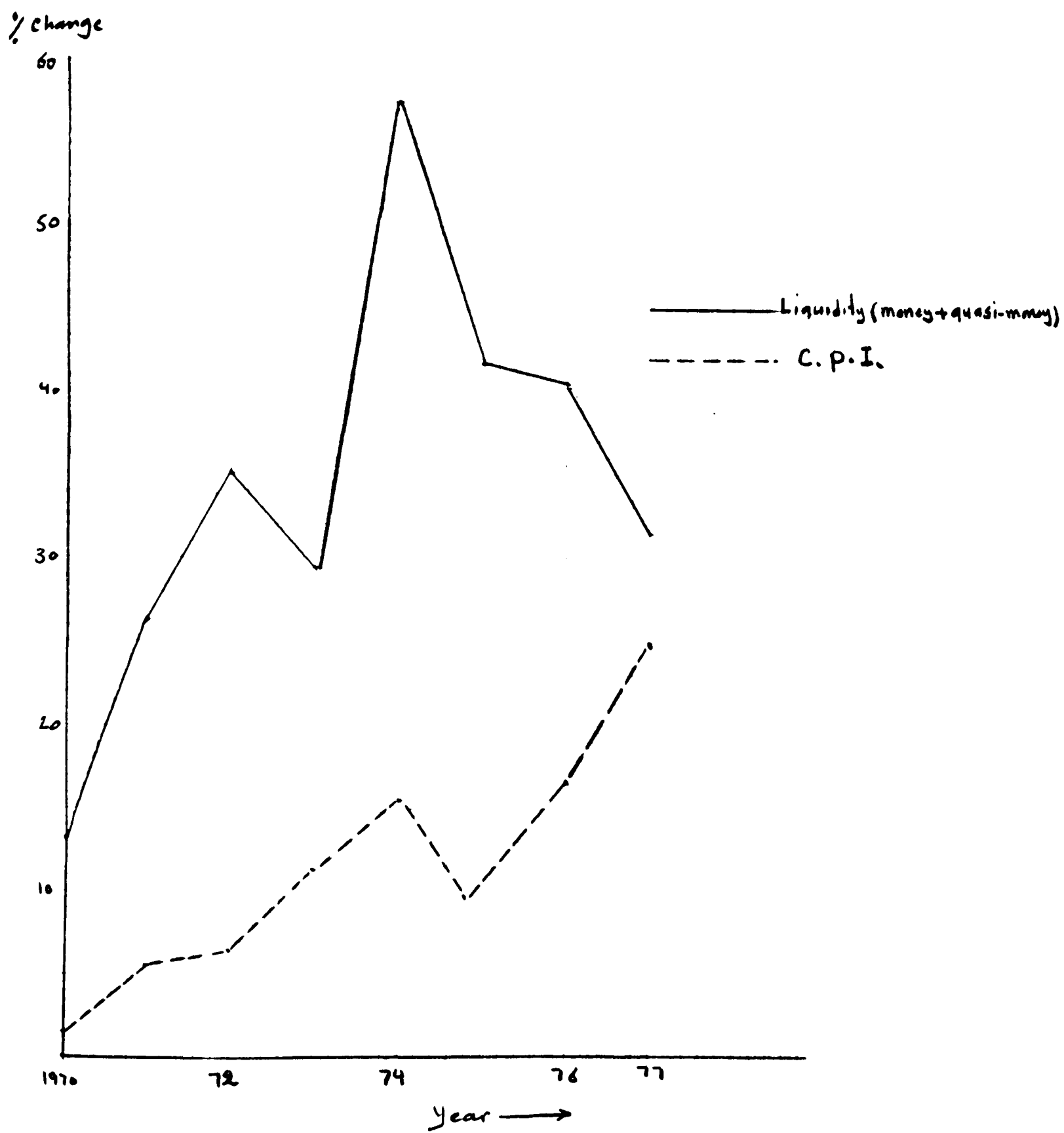


Chart 6.1 Rates of growth of domestic liquidity and C.P.I.

Sources: Table A.8.4.

Before explaining the role of the Government, it seems that the acceleration of demand over 1970-74 has initiated the imbalance between supply and demand not only in the commodity market but also in the factor market despite rapid expansion of imports and employment of expatriate labour. Nevertheless, the imbalance in the labour market has been a more important cause of inflation than the imbalance in the commodity market. Chart 6.2 indicates that wages in all sectors of the economy increased much faster than C.P.I. right from the beginning of 1970-77 period, over which inflation accelerated. Hence, the increase in wages cannot be explained entirely by increase in the C.P.I., though no doubt the increase in C.P.I. has in the later stages had some effects on the increase in wages. Note that the C.P.I. might be understated, but the fact that wages in various sectors increased at different speeds indicates that some factors other than increase in prices have been operating. These factors are those related to imbalances in the labour market and socio-political factors.

The role of structural factors in imbalances in the factor market as well as the commodity market requires some clarification. To do so, let us explain briefly the concepts of imbalance and structural rigidities first. An excess demand can arise as a result of an increase in the demand, given the supply, or as a result of a disproportionate increase in demand in relation to supply. In developing countries even when the aggregate supply of labour is greater than the demand, severe rigidities may arise due to lack of ability for training of labour. Lack of training makes the labour supply immobile and shortages of skilled labour arise. Now, the question in the case of Iran is: was the increase in wages entirely due to rigidities related to immobility of labour supply? The fact that wages for unskilled labour increased faster than those for skilled labour for a while suggests that the increase in wages cannot

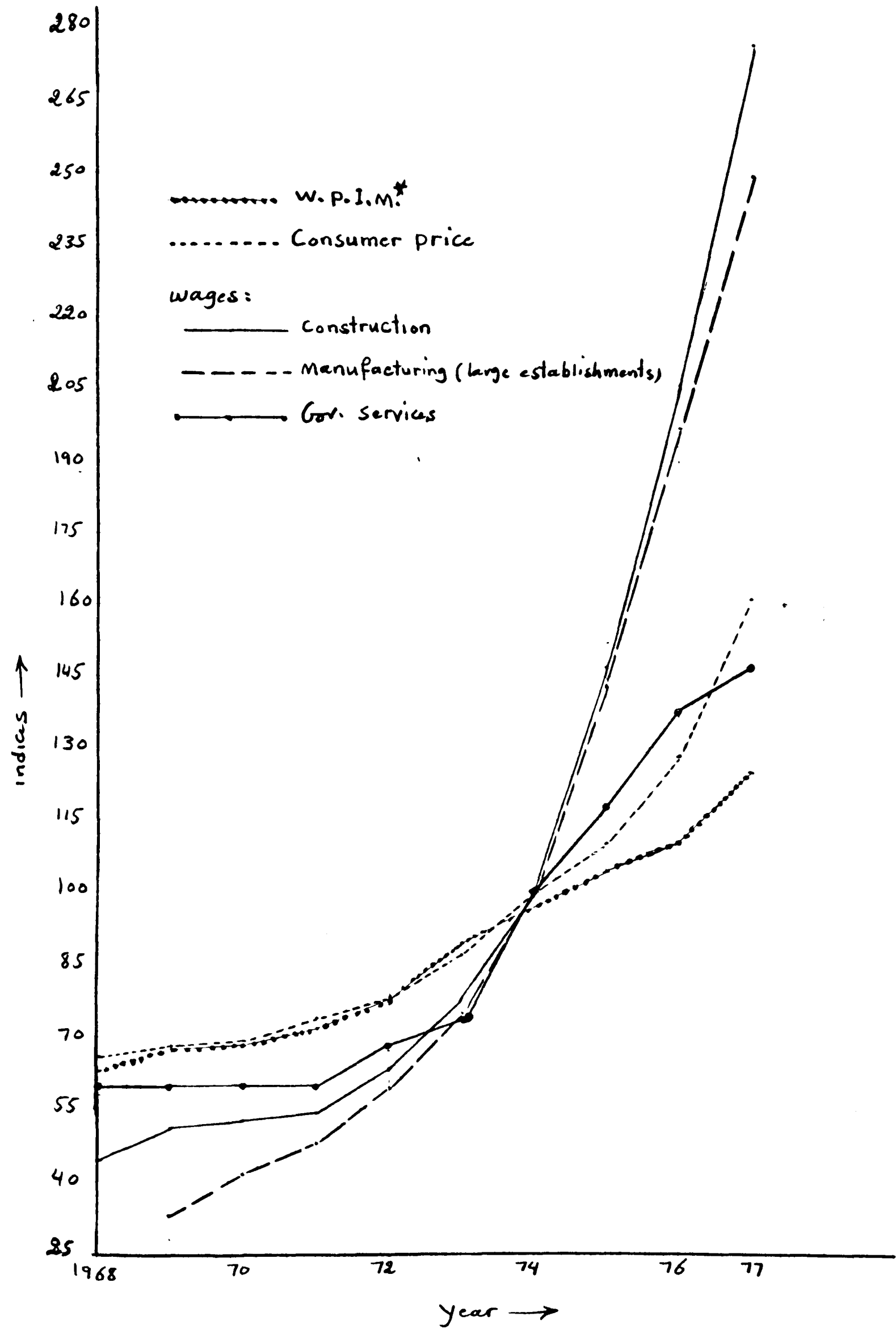


Chart 6.2 Changes in the price and wage indices (1974) = 100.

* Wholesale Price Index of Imported Materials.

Sources: Table A.8.3.

be attributed entirely to rigidities of this kind. Over 1973-75 wages of unskilled construction workers increased by about 99 per cent as against 82 per cent for skilled labour in the same sector and 90.5 in 'very large' manufacturing establishments which usually employ skilled labour.¹

At this stage we should mention a point, though it is not directly relevant to the line of our argument. Why did wages in the industrial sector not rise as fast as those in construction (Chart 6.2)? The reason is that the supply of labour in both construction and manufacturing was, relatively speaking, competitive, but in manufacturing demand was characterised by some degree of oligopsony.

In the commodity market, the acceleration of injection of funds into the economy over 1971-77 put pressure on supply. However, bearing in mind that supply of foreign exchange was not a bottleneck, in the absence of structural rigidities in the physical import capacity and the distributional network, and in the absence of an increase in wages, any rise in prices would be limited to those resulting from a shortage of non-traded goods. We have earlier dealt with the case of electricity as an example of non-traded input. Although the price of electricity was fixed, and it did not make a direct contribution to inflation, its indirect impacts cannot be denied. Unfortunately, we are unable to substantiate the size of such a contribution; but the resultant supply shortages, of commodities which use electricity as an input, undoubtedly aggravated inflation. Further, scarcity of electricity surely reinforced the demand for labour, hence the rise in wages, in cases where human labour had to be substituted for automatic apparatus, e.g. in construction activities

The role of the Government

In an oil economy the increase in Government expenditure is the main contributing factor to the increase of domestic liquidity and demand even when the budget is in balance, i.e. even when the budget does not run into

1. Based on Table A.8.3.

Table 6.1

Comparison of domestic liquidity¹ and Government net injection 1969-77

	<u>Amount (Rl.b.)</u>		<u>Growth rate</u>	
	<u>Liquidity</u>	<u>Net Gov. injection</u>	<u>Liquidity</u>	<u>Net Gov. injection</u>
1969	207.5	121.4		
1970	234.5	143.3	13.1	18
1971	296.3	186.4	26.2	30
1972	400	232.6	35	24.8
1973	518	324.2	29.5	39.4
1974	815.7	1066.2	57.5	228.8
1975	1156.5	1244.1	41.8	16.7
1976	1626.3	1282.4	40.6	3.1
1977	2139.5	1903.5	31.5	48.4

1. Money and quasi-money.

Sources: B.M.I. and Tables 8.2.5 and A.4.8.

deficit in the strict sense. This is because the injection of oil revenues, as explained earlier in this section, is not accompanied by equivalent taxes withdrawn from the domestic economy.¹ Hence, any increase in that injection immediately adds to the aggregate demand; and the resultant increase in the liquidity in the hands of the private sector will put further pressure on demand.

In fact, we may regard the difference between the Government expenditures,

1. Obviously, the injection results in withdrawal in the forms of imports of commodities and labour as explained in 5.2; nevertheless here we are concerned with method of financing the budget rather than total 'injection' and 'withdrawal' from the economy.

i.e. the sum of domestic current expenditure and domestic investment, and the non-oil revenues, excluding interest rate and profits earned on investment abroad, as an indicator of the 'net injection' into the economy by the Government. Accordingly, the 'net injection' constitutes not only oil revenues but also net borrowing from abroad and from the Central Bank. Note that the 'net injection' so defined is not equal to the contribution of the Government to domestic liquidity as is sometimes suggested.¹ It is not so, because the Government pays in foreign currency for purchase of such items as armaments and some machinery, etc. without involving domestic currency. Nevertheless, it appears that changes in the rate of growth of domestic liquidity has followed changes in the 'net injection' over 1970-75 (Table 6.1), when the increase in demand initiated inflation. Moreover, the same table indicates that the net injection in absolute terms has become crucially significant as compared with the stock of domestic liquidity. Hence the Government expenditure appears as the main tool of manipulation of the aggregate demand. To the extent allowed by the structural factors, 'net injection' should not lead to inflation when an equal amount is available in foreign exchange. This can explain, by the way, the price stability over 1963-70, despite growth in the net injection, in relation to non-oil GDP.²

For the following period when the structural rigidities appeared, as explained in the previous chapter, and their removal was not possible in a short period, one way to prevent serious imbalances would have been to aim at a lower growth rate of non-oil GDP, i.e. refraining from revision of the plan targets. Another policy which could have mitigated the imbalances was to limit

1. See D. Morgan, op. cit.

2. See Chart A.2.1 in the Statistical Appendix. Note that the annual average rate of growth in C.P.I. was only 1.7 per cent over 1962-70, see p.17, Table 1.1.

those public, as well as private, expenditures which influence the demand side in the commodity and factor market with no, or little, contribution to the expansion of productive capacity. Evaluation of the Government policies in the light of such argument requires close examination of changes in the structure of Government revenues and expenditure, and we deal with it in a separate chapter. Nevertheless, we would like to mention here that not only did the Government aim at a high rate, but it also exacerbated the imbalances both on the 'pull' side and the 'push' side. The fast expansion of unproductive expenditure,¹ much of which could have been avoided, raised demand for both commodities and labour. The Government also contributed to the increase in wages by a sudden and deliberate increase in wages in the public sector. Though Chart 6.2 indicates that over 1973-77, wages in the Government sector increased slower than those in the private sector, the figures should not be taken too seriously. The relevant deflator used in the Chart does not include the wages of workers which are not covered by the National Employment act, i.e. Government companies and corporations including the oil company and public banks. Nevertheless, even Chart 6.2 shows that immediately after the rise in the price of oil, in 1974, the rise in the wages for Government employees was greater than that for other employees.² It is very likely that such an increase pushed up wages in other sectors through its 'demonstration effect'.

To summarise this section: despite availability of foreign exchange, inflation accelerated mainly due to shortage of labour and the existence of other structural bottlenecks which appeared owing to high target rate of growth as well as expansion of unproductive expenditures. Those bottlenecks consisted mainly of rigidities in the infrastructure for inputs and in the distributional network together with the slow growth of 'supply determined' non-traded inputs.

1. See pp. 218-9 in Chapter 7 for definition.

2. Note that wages in the public sector were greater than those in the private sector even before that period (see 7.7).

6.3 Wages and Foreign Exchange

Accompanied by inflation, a fixed exchange rate determined by the cost and price structure in the oil sector, and favoured by the classes in power, is a hindrance to the development of non-oil export. Even though import substitution may take place rapidly by raising the internal price through protection, the very nature of internal costs and prices makes competition in the world market difficult unless the discrepancies between internal and external prices are corrected through subsidies and/or adjustment of the exchange rate. After showing that there has been a substantial reduction in the degree of competitiveness of non-oil exports in the international market due to 'creeping revaluation',¹ we will argue that a dual exchange rate policy seems preferable to subsidy or a uniform devaluation.

To remedy the inflationary pressure in Iran after the price rise of 1973, some economists prescribed a substantial explicit revaluation of the Rial against the dollar.² We will also shed some light on this argument and demonstrate that such a policy would have further negative impacts on non-oil exports without a significant reduction of inflation.

6.3.1 Unit labour costs and the exchange rate (creeping revaluation)

Increase in wages may have a negative impact on the non-oil exports and their prospects for the future. The increase in wages will lead to an increase in the unit labour costs to the extent that it is not compensated by an

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1. We use 'creeping revaluation' as against 'explicit revaluation'. The latter implies a deliberate alteration of the exchange rate by the authorities; the former means an implicit increase in the value of the Rial against foreign currencies due to the relative increase in the domestic labour cost in the absence of a corresponding adjustment in the exchange rate.
 2. D. Healey of I.L.O., 'Inflation in Iran' (a confidential memo presented to the officials of P.B.O., June 3, 1974), pp. 1-2.

increase in productivity. If the increase in the unit labour cost is greater than that of the competitors, and the difference is not adjusted correspondingly by a change in the exchange rate, or by some other policies, it could reduce the incentive for expansion of exports. Since the country is a price taker in the international market for non-oil exports, a rise in costs reduces, given the exchange rate and other policies, the profit margin on exports.¹

Table 6.2

in		
<u>Changes in unit labour costs in manufacturing and exchange rate in Iran against U.S.A. (1970-77)</u>		
	<u>1970</u>	<u>1977</u>
Unit labour cost ¹ index:		
Iran	100	228.1
U.S.A.	100	143.3
Index of exchange rate (Rl. to \$)	100	108.2

1. Unit labour cost is calculated as manufacturing earnings divided by index trends in productivity. Manufacturing earning for Iran is per capita annual earnings; for U.S.A. it is hourly compensation. The index trend of productivity for Iran is the ratio of index trends in production to that of employment.

Sources: Table A.7.7; and U.S.A. Statistical Abstract, Dept. of Commerce, 1978, p. 417.

We have compared, in Table 6.2, changes in the unit labour costs in the manufacturing sector of Iran with those of U.S.A. for the period after the first rise in the price of oil. Since reliable data for the manufacturing

1. Note also that the combination of rising costs and fixed exchange rate also reduces, cet. par, the competitiveness of domestic output of importables, against imported items.

sector as a whole are not available in the case of Iran, we used the data for the large manufacturing establishments provided by B.M.I. Because the modern manufacturing sector is the main, if not the only, sector with some prospects for expansion of exports, the data used are quite useful for our purpose. The table also shows the relative changes in the exchange rate against that of U.S.A. As mentioned earlier, the Rial is pegged against this currency. The table indicates a substantial increase in the relative unit labour costs for Iran.

Considering the fact that the relative decrease in the purchasing power of the Rial is not compensated for by an adjustment in the exchange rate, we may say that the Rial appreciated in value against the dollar in the form of 'creeping revaluation'¹ on top of the explicit revaluation² indicated in the last row of Table 6.2.

6.3.2 Explicit revaluation, inflation and exchange rate

Would a substantial explicit revaluation not harm the prospects for export diversification further; and would it prevent inflation? Generally speaking, revaluation has two opposing impacts on exports: it mitigates increases in unit labour cost; and it changes the exchange rate unfavourably against non-oil exports. If the latter is compensated by the former, the overall effects on exports are nil. However, the positive impact of revaluation on remedying inflation is less important than its negative effect on production.

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1. A part of the increase in the unit labour costs is perhaps due to likely increases in overtime in Iran in recent years because of the shortage of labour. The data on wages for Iran are those of annual per capita wages. By contrast those of the U.S.A. are hourly wages. According to the Labour Act in Iran, hourly payment for overtime is greater than that for normal hours. However, the extent of the increase in the cost is such that it cannot, by any means, be explained by changes in the hours of work.
 2. The explicit revaluation occurred exclusively in early 1973.

Revaluation has a 'once for all' and limited effect on inflation. It has a 'once for all' effect because the decrease in the price of imports, resulting from a certain rate of revaluation, is compensated by ongoing increases in prices in the international market. Only a series of subsequent revaluations can have a continuous impact on reducing inflation. Even if there was no international inflationary pressure the effect would be once and for all. Moreover, the reduction in the price of imported items would not necessarily pass on to consumers.

Revaluation has a limited effect on curbing inflation because its effect depends on the relative weight of imports in total supply. Revaluation has no impact on the domestic causes of inflation. In the commodity market its effect is hampered by the limited import capacity, and transport facilities. Furthermore, it cannot cure a shortage of non-tradeable goods. In the labour market it cannot cure imbalances in supply and demand which were the main cause of increases in wages and prices. Obviously, the competition of cheap imports can reduce, given other things, the incentive for investment in expansion of domestic output, and to that extent demand for labour is decreased. However such a remedy is obviously a wrong way of tackling the imbalance; the imbalance could have been avoided by aiming at a lower target rate of growth.

The argument on revaluation is based, implicitly, on the view that the exchange rate should be determined by the availability of foreign exchange provided by oil revenues. It is argued that since the increase in oil revenues caused a surplus in the balance of payments, the exchange rate should be adjusted in order to remove the surplus and reach 'equilibrium' in the balance of trade.¹ We should emphasise however that the surplus in the balance of trade did not represent changes in the productivity of the economy. It accrued

1. The relevant exchange rate is called 'equilibrium exchange rate'.

from the increase in the price of an exhaustible asset, whose demand and supply are inelastic and the owner of which enjoys 'monopoly' and 'economic' rents. If that asset was not depletable overvaluation would not cause any concern, and the economy would adjust itself after a while through re-allocation of resources to that sector. However, since oil is exhaustible the negative effect of revaluation for prospects for non-oil export, i.e. for diversification into other sectors of the economy, should be considered.¹ Because of such a trade-off, removing the trade surplus should not be considered as an objective. Even if it is, the surplus can be easily removed by reducing oil exports without a noticeable effect on such main variables of the economy as employment. After all, even in a non-oil economy the aim of exchange rate policy may not necessarily be to create equilibrium in the balance of payments in the short-run.²

6.3.3 The problem and the remedies

Our argument in the previous pages should not be taken to imply that a uniform devaluation is an appropriate measure to provide incentive for non-oil exports. Insignificant devaluation has little effect on diversification; and a sizeable devaluation can be self-defeating. While devaluation has no impact on exports of oil, it may involve considerable inflationary consequences. It tends to make imports, which constituted over half of non-oil GDP in 1977,³

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1. Note that it might be argued that the exchange rate should be determined by the productivity of oil. When oil is exhausted the price mechanism will take care of the necessary adjustment, i.e. the exchange rate adjusted according to the economic situation of the time, and non-oil export is encouraged. However, we know that in reality this is not practicable for the reasons given in 3.3.
 2. See M. Corden (1980).
 3. See Table 1.2.

more expensive. In particular, the increase in the price of imported foods is bound to cause a rise in wages. A wage-price spiral will increase the costs of non-oil exports further.

The problem is that Iran, like other oil economies and to a varying extent other primary producing countries, suffers from a duality in the cost and price structure. The oil sector enjoys 'rent' because its demand is highly income elastic and price inelastic, and its costs of production are low, as explained in Chapter 2. Unlike oil, the prices of non-oil commodities are to a large degree 'cost determined', but their demands are price elastic in the international market. As we have already shown, in spite of the increase in the costs of production in the non-oil sector, resulting from inflation, the Government has not adjusted the exchange rate. Apart from availability of oil revenues, there is presumably a socio-economic reason for lack of adjustment: the tendency towards obtaining cheap imports. The industrialists, being protected against the exchange rate in the market for finished goods, through import duties, have strong vested interests in cheap imports of raw materials and semi-manufactured goods. The urban consumers have a vested interest in imports of cheap foods. The importance of the relevant items of imports and the power of the groups concerned versus the insignificance of non-oil exports have been influential factors.

Note that the Government has protected the domestic market for manufacturing, by import duties, initially in line with the familiar argument on infant industries suffering from high cost, because of low productivity, as compared with advanced countries. Nevertheless production for export has not been provided with enough incentives.¹ Moreover, the agricultural commodities,

1. A small export bonus was paid to some items.

both exportables and importables, have been left subject to competition from foreign goods.

In theory, there are two main methods for remedying the problems related to the dual structure of the economy: introducing a system of dual exchange rate, or applying indirect taxes and subsidies. Generally speaking, the case for the former is held to be: it costs less and is easier to administer than the alternative.¹ The counter argument runs that, because it is difficult to separate the relevant exchange markets, costs of control and administration are high; it induces speculation and corruption by false invoicing of trade transactions; and it distorts relative prices.² In practice, considering the concrete case of Iran one may propose a system of dual exchange rate supplemented by some other measures.

A fixed low exchange rate would apply to oil revenues and all essential imports - raw materials, basic needs and many capital goods. In addition, there would be a free and floating rate at which foreign exchanges earned from non-oil exports would be supplied, and through which the demand for foreign exchange for imports of some items of luxury goods, if not all, will be financed.³ The advantages of this system over that of tax and subsidies are first of all that it works, in effect, similar to the latter but it is self-financed, and involves minute cost of collection and administration. Secondly, running a subsidy organisation to take care of all items

1. Kaldor (1964) and Streeten (1972).

2. See Lanyi (1975); he dealt with the problems of capital and commodity market in advanced countries, but a parallel may be drawn with the case of two groups of commodities in LDC.

3. This is in line with Kaldor's suggestion (op. cit., p. 188).

is more expensive than administration of the dual exchange rate; the machinery for the control of foreign exchange is already in operation. Thirdly, since oil revenues are exclusively received by the Government, there is no link between the two markets, i.e. oil revenues cannot be supplied by the private sector into the free market. The only way to shift foreign exchange from one market to another is by purchasing foreign currency in the fixed market through over-invoicing of imports and smuggling it to the country to be supplied to the free market. Nevertheless, this is unlikely to happen on a significant scale because over-invoicing of imports will at the same time increase insurance costs and import duties, where the commodity is subject to the duty. Further, many necessities subject to low rate are being directly imported by the Government. Finally, as regards distortion, in fact the dual exchange rate compensates for the distortion already created by a combination of fixed rate and import duties.

On the other hand the dual exchange rate has three main disadvantages: it still penalises the domestic agricultural production, discourages use of labour, if the low rate is applied to capital goods, and promotes production of luxury goods in which the country might not gain dynamic comparative advantage.¹ Hence, it should be supplemented by other measures such as subsidisation of agriculture and prevention of expansion of luxury products by denying licence. Again the machinery for implementation of such policies is in operation: the Government is directly involved in the market for main agricultural commodities, and industrial expansion is being subject to licensing.

* * *

1. For the last point see Wickramasinghe (1976), p. 422.

To summarise this chapter, the contribution of imports to the mitigation of inflation was limited. Despite availability of foreign exchange, inflation accelerated due to the imbalance in supply and demand, both in the commodity and labour markets, resulting from the injection of massive funds into the economy and the appearance of structural bottlenecks. In other words, elements of both demand-pull and cost-push were in operation. Moreover, the Government policies both on the pull and the push sides contributed to inflation.

Accompanying inflation, the fixed exchange rate, allowed by the presence of oil revenues and favoured by the power group, has drastically reduced the degree of competitiveness of non-oil exports in foreign markets. While importable manufactures have been protected by import duties, non-oil exports have suffered from lack of incentive.

It was also argued that explicit revaluation which had sometimes been suggested as a remedy to inflation, not only would harm prospects for non-oil exports even further, but it would not curb inflation either, because of the existence of structural bottlenecks. Perhaps the best way to have prevented inflation would have been to aim at a lower growth rate of output, and to avoid acceleration of those expenditures which exacerbate inflation without contributing to growth or to the removal of the obstacles to growth. This leads us to the following chapter.

Regarding the non-oil exports, we have suggested that a system of dual exchange rate, supplemented by other measures, can provide the necessary incentive and is preferable to uniform devaluation.

Chapter 7

The Government Budget and its Allocation

7.1 Introduction

In the previous chapters we have frequently referred to the key role played by the Government budget in the process of development and in the distribution of its benefits. Here we take a close look at those issues. Availability of oil revenues not only allows low taxation of the private sector, but it also allows the Government to increase investment outlays as well as consumption expenditures rapidly. Nevertheless, the very expansion of consumption limits prospects for investment because of their competition with investment over non-financial resources and 'supply determined' commodities necessary for growth, as explained in Chapter 2. The same trade-off exists between the allocation of resources to productive and to unproductive investment. Postponing the exact definition of consumption expenditures and unproductive investments, let us call their sum unproductive expenditures.

The main theme of the argument of this chapter is two-fold: i) Government financial activities, through the budget, exacerbated the physical obstacles to growth and contributed to inflation chiefly because of low taxation and rapid expansion of unproductive expenditures; ii) the same policies affected the distribution of benefits of development in favour of the well-to-do, and frustrated the expectation of the masses of the people. Eventually those policies led to the collapse of the regime.

The availability of revenues alone cannot explain the process of development, however important they may have been. Events do not occur automatically; the political will of the Government is also crucial. Oil revenues did reduce the need for taxation of the well-to-do Governmental class. Nevertheless, the Government made no effort to tax them even when it needed extra revenues. Instead, it relied on deficit financing which was facilitated by the 'credit-worthiness' of oil in the international market. Taxes being low, the Government

lacked this important instrument of fiscal policy to restrict consumption and the structure of expenditures in the private sector where 'consumer expenditures' expanded fast particularly over the Fifth Plan. As far as the Fifth Plan is concerned, the Government did not attempt to limit liquidity in the private sector. In fact, in addition to injection of oil revenues, the Government expanded that liquidity by reducing tax effort and by repayments of domestic debts in the early years of the plan. In the last years of the plan it undertook ample budget deficits despite the appearance of the structural problems of acceleration which had already shown up.

The Government accelerated not only productive but also unproductive expenditures. While investment in backing-up services, i.e. economic infrastructure and socio-economic infrastructure, were given low priority, such items as military expenditures, including security, and administration, got the upper hand. The sudden increase in oil revenues at the beginning of the Fifth Plan raised the expectations of the masses for a better living. The Government bureaucratic machine, located mainly in the national and provincial capitals, had the power to elevate its already significant share in oil revenues in the form of wages and salaries and other benefits. By contrast, instead of fulfilment of the expectation of the masses, the Government tried to take oppressive measures. Accordingly, military expenditures were expanded much faster than social services. While in terms of expenditures on social services Iran occupied a less impressive position as compared with other developing countries, let alone developed countries, it was one of the top countries in terms of allocation of GNP to military expenditures. Despite their significance, the linkages of the military expenditures to the national economy were negligible. By contrast, they had large linkages with abroad and allowed recycling of a significant portion of oil revenues back

into the economy of the main Western capitalist countries which supported the regime. While the external links and support were strengthened, the internal support weakened and people began to be intolerant of the regime.

Not only were expenditures on social services small as compared with unproductive expenditures, but their distribution also proved to be unequal, in favour of large cities and against rural areas. Oil revenues helped the Government to undertake land reform, defuse the power of the landlords and monopolise political power. The peasants had little power as against the bureaucratic machine and the Governmental class. The Government was accordingly biased against rural areas both in its current and development expenditures.

7.2 Revenues and Deficit Financing

We have already explained that trade in oil has two salient 'financial effects': it provides the Government with oil revenues, and it also facilitates the obtaining of foreign loans through its 'creditworthiness effect'. In theory, those financial effects could contribute to greater investment for given taxes and consumption, or to lower taxes for given investment and consumption. Kalecki argues that in practice the financial effect would tend to reduce, pro tanto, the need for taxation of the well-to-do. Taxation of the well-to-do, he maintains, is prevented by the vested interests concerned; and even when tax laws are passed, tax collection is difficult in a developing country where tax evasion is rampant.

Prima facie the argument that for a given rate of growth of GNP the availability of oil revenues will reduce, ceteris paribus, the need for taxation seems reasonable. In other words, to achieve a certain planned rate

of growth of GNP, other things being equal, required taxes both in absolute terms and in relation to GNP would be higher in the absence of oil revenues than otherwise. Oil revenues contribute to growth of GNP directly, and they provide means of finance. One could however argue that in the absence of oil the planned, and the actual, rate of growth of both GNP and non-oil GDP could have been smaller. At any rate, it is not possible to be certain about what would happen in the absence of oil. Nevertheless, as far as the policy implication of low taxes for acceleration of growth and for distribution of benefits of growth is concerned, we should try to find a method to test the hypothesis. One way is to compare Iran with other developing countries in terms of taxes. Another way to reach a clue is to study the relationship between changes in oil revenues and taxes collected by the Government over time, taking the level of oil revenues at the beginning of the period for granted. Accordingly, we will show that compared with developing countries as a whole, Iran records a very low taxation effort; that in particular taxes on the well-to-do are insignificant; and that there is an inverse relationship between oil revenues and taxes collected by the Government. Moreover, it will be shown that even when the Government needed extra funds due to unexpected sluggish growth of oil revenues, or rapid growth of expenditure, it preferred deficit financing to increase in taxes. Finally, over the period of the Fifth Plan, instead of trying to limit the growth of liquidity in the private sector, the Government contributed to it by lowering taxes and repaying State debts owed to the public in the early years of the plan, then by deficit financing in the later years.

7.2.1 Iran and other developing countries compared

Compared with developing countries as a whole, taxes are insignificant,

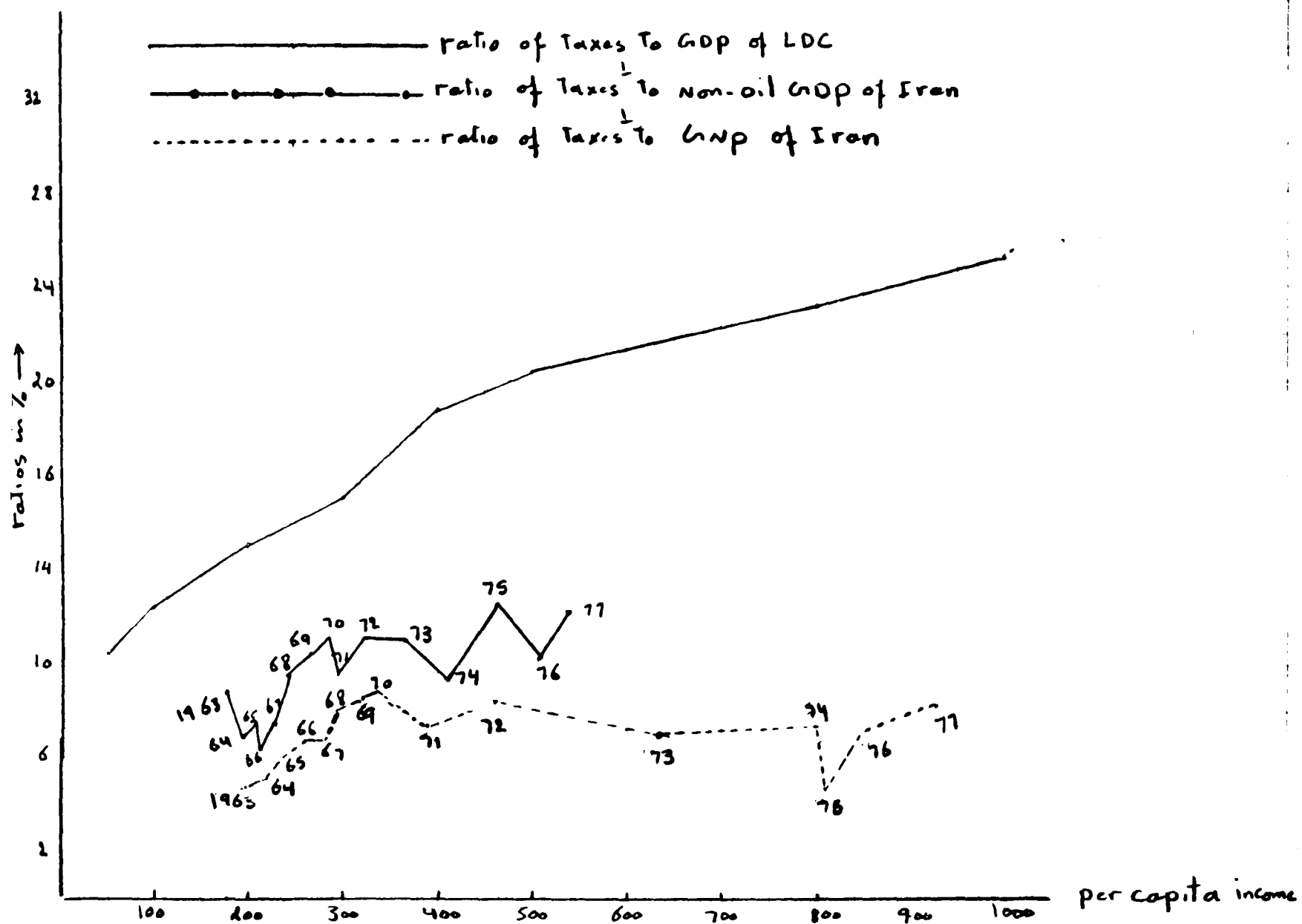


Chart 7.1 Comparison of percentage shares of taxes in various measures of aggregate income, Iran and developing countries.

1. Includes customs revenues.

Sources: Iran: based on Tables A.2.2, A.4.1-A.4.4; LDC: Chenery and Syrquin (1975), p. 20.

in relation to national income. Chart 7.1 compares Iran with a group of 89 developing countries in terms of the percentage share of taxes, including customs revenues,¹ to GNP at various levels of per capita GNP. In the case of Iran the data on taxes exclude oil revenues, and we have also depicted the ratio of taxes to non-oil GDP at various levels of per capita non-oil GDP. The figures on per capita GNP² (and non-oil GDP) are in US \$ and 1964 constant prices and exchange rates. The data on developing countries are based on a study undertaken by Chenery and Syrquin (1975), and they represent the average pattern, calculated by pooling of annual cross-sections for the period 1950-1970.³

To present a better picture of the relative influence of oil in the non-oil sector of Iran, we have also depicted in the chart the ratio of taxes to non-oil GDP at various levels of per capita non-oil GDP.

As is clear from the chart, even when the ratios of taxes to non-oil GDP for Iran are compared with the average ratios of taxes to GDP of the developing countries, the discrepancies are colossal at all levels of per capita income. Moreover, the gap between them widens as the level of per capita income increases. In fact, for Iran that ratio has hardly ever exceeded 12 over the period under study and in the range of per capita non-oil GDP of \$ 176 to \$ 537. That ratio is scarcely greater than the mean ratio for countries with per capita GNP of less than \$ 100.⁴

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1. Those of Iran for the period before 1971 include revenues received by the customs offices for various services.
 2. Those of Iran are corrected for changes in the terms of trade.
 3. See Chenery and Syrquin (1975), pp. 153-64, 167 and 170. Note that in contrast with theirs our data are time-series and cover 1963-1977. The annual cross-section data, unlike time series, do not embody the effect of time shifts. In their pooled data they introduce an element of time shifts. Nevertheless, since their data do not contain as recent a period as ours, to that extent the impact of time is not covered. Assuming that the time shift is positive (i.e. the degree of Government involvement in the economy increases over time even for a given income), the curve related to LDCs would shift upward, if the data covered recent years. In effect, our conclusion would be intensified.
 4. Continued at the bottom of the next page.

Comparison of the ratios for Iran, even when taxes are measured against non-oil GDP, and LDCs for various income levels, suggests that the potential for further taxation in Iran has been great. As the distance between relevant graphs indicates, the Government could have doubled its tax efforts. A part of the discrepancies between the tax-income ratios might be attributed to the possible inclusion of export taxes and revenues received from the export sector in the data on taxes in the case of developing countries. The relevant source is not clear about it. Nevertheless, since only some developing countries, mainly oil and other mineral producing countries, enjoy large export revenues, the gap cannot be explained by that factor alone.

If one argues, with Nicholas Kaldor (1963), that the pattern of income distribution is a more relevant guide to taxable capacity than per capita income, then Iran definitely possesses a relatively larger taxable capacity compared with other developing countries as a group. In fact, Iran is regarded as one of the worst countries in the world in terms of income inequality as mentioned in Chapter 8.¹ The lack of taxation effort by the Government becomes even more clear when the structure of taxes is examined.

7.2.2 Structure of taxes

The Government has made little effort to tax private income particularly in the case of the well-to-do. Let us examine, as an example, the structure of taxes for 1975, in which the ratio of taxes to non-oil GDP was at its peak.

continued.

4. Note that for Iran taxes are measured against GNP. Had they been measured against GDP the ratios would have been even smaller, particularly for the period before 1973. Over this period the difference between GDP and GNP was significant.

1. See p. 270.

Table 7.1 indicates that customs revenues and profit tax on state corporation constitute the bulk, over two-thirds, of total taxes. Neither tax can represent taxation effort. Customs revenues have been employed chiefly as a protective measure for import-substitution rather than as a means of financing the budget. This is explicitly stated in the Bills on Import-Export Regulations of Iran. After all, oil revenues per se are the main determinant of customs revenues because they are the main determinant of import capacity. The profit taxes on state corporations are a part of the Government's share in the profit of these agencies, and they would be owned by the Government at any rate even without taxation. Note also that such taxes may be considered as a sort of indirect tax,¹ the burden of which is taken by the public at large rather than the well-to-do.

Table 7.1

Distribution of taxes in Iran (1975)

	<u>Rl.b.</u>	<u>%</u>
Customs duties	92.7	34.3
Other indirect taxes	26.3	9.7
Total indirect	<u>118.0</u>	<u>43.7</u>
Government corporation taxes	93.2	34.7
Other direct	58.7	21.7
private corporation taxes	(20.1)	7.4
income taxes	26.2	9.7
wealth tax and others	12.4	4.6
Total direct	<u>151.9</u>	<u>56.4</u>
Grand total	<u>269.9</u>	<u>100</u>

Source: As Table A.2.2 and A.2.6 and relevant Budget Acts.

1. The budget act regards them as a part of direct taxes.

Compared with indirect taxes and state corporation taxes, direct taxes, in particular profit taxes on private companies, the burden of which is borne by the well-to-do, are very small as is shown in Table 6.1. Due to lack of profit data at the national level we cannot measure profit taxes against total profits. Nevertheless, to provide the reader with a rough idea, we measured total profit taxes against an estimate of profits in the manufacturing and mining sector. It was assumed that the share of gross profits in value added in that sector was equal to that of 1972, that is 48 per cent.¹ Accordingly, the relevant ratio so calculated was in fact minimal, about 6 per cent.² Though the figure on value added includes some state industries, it is far overcompensated by our exclusion of private banking, private services and construction which in fact enjoy a much higher share of profit in value added than manufacturing.³ Similarly other direct taxes are so small that they do not require particular attention.⁴

Generally speaking, there is some evidence that the effective tax rate is higher at low incomes than high. For example, according to one study for 1971, the effective percentage rate of tax on the bottom household decile was 10.7 as against 8.4 for the highest decile.⁵ According to another study on direct taxes collected in Tehran in 1970, the effective tax rate is quite regressive. It starts at 14.1 per cent at the lowest income group of under Rl. 10,000 and declined to 4.9 at the income group of Rl. .8-1 m. Moreover, though it rose to 19.5 at the income group of Rl.30-50m, it sharply declined to 6.7 for the last income group of higher than Rl. 50 m.⁶ All these imply not only that the effective tax rates have been low, but also that tax evasion

1. Based on M.A.I. Baravardē Moghadamati Hesabhayē Meli 1971-74, p. 60.

2. The value added was Rl. 683.1 b. (based on Table A.4.3).

3. See pp. 285-6 in Chapter 8.

4. Note that despite their greater size compared with direct taxes, indirect taxes were small in relation to private consumer expenditures. Net indirect taxes (net of subsidies) received by the State (the Central Government and municipalities) constituted about 11 per cent of private consumer expenditures in 1972. Furthermore, they declined considerably after the 1973 oil price rise when the Government increased subsidies on main consumer items substantially. The relevant ratio fell to 9.7 in 1973 and to 5.8 in 1974 when net indirect taxes declined also in absolute terms to Rl. 65.1 b. from Rl. 85 b. in the previous year. Although the ratio gradually rose to 8.6 in 1977, even then it did not reach its 1972 level. (Based on B.M.I. An. Rep. 1977, Table (1), pp. 160-1).

5. See Mehran (1975b), p. 60, Table 19.

6. See Kianian (1975), p. 47, Table (a).

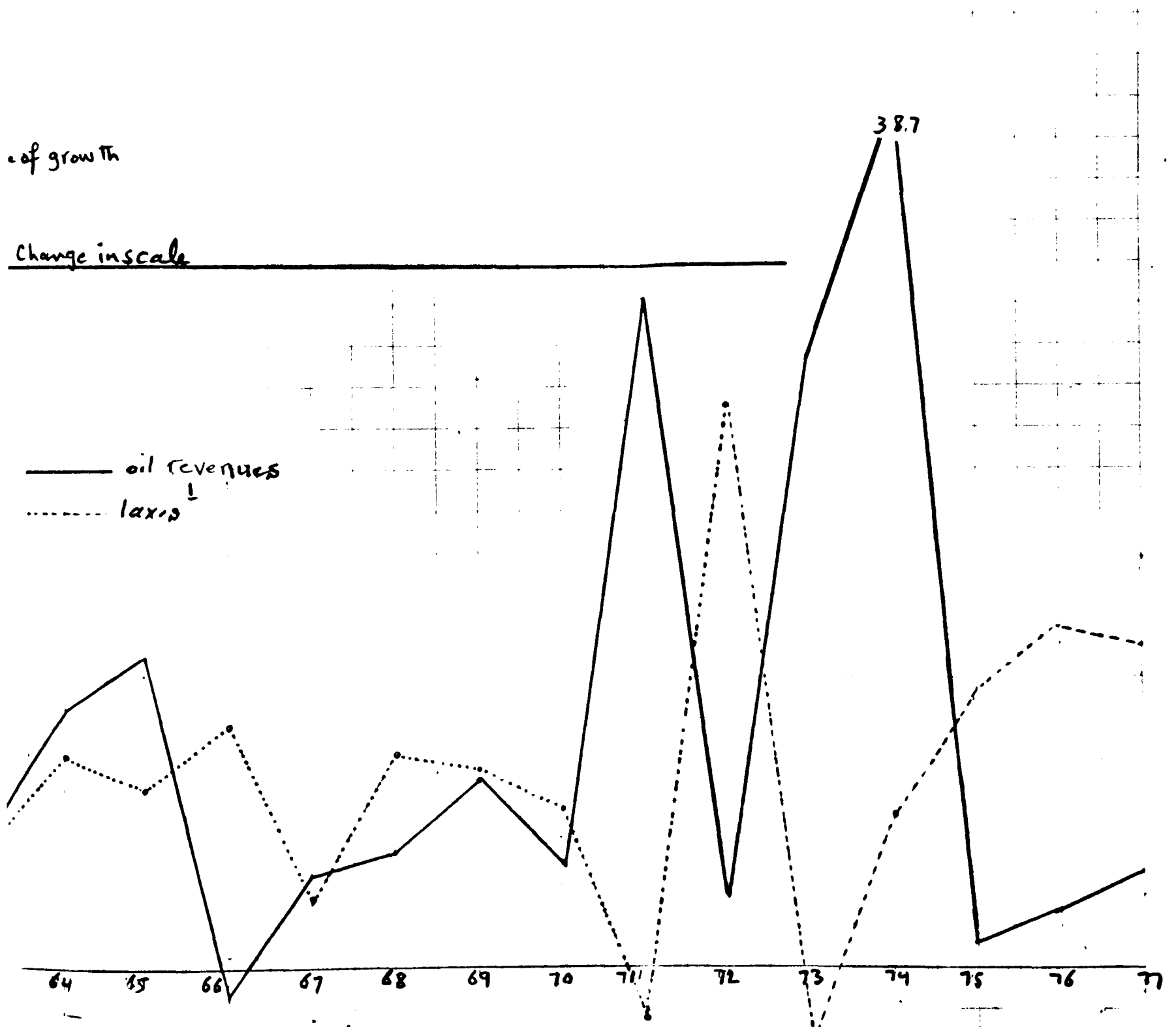
must have been rampant, specially in the top income group whose nominal tax rate was quite high as compared with the effective rate. The income tax rate which started at 15% at the income level of less than Rl. 400,000 was reasonably progressive, reaching 55% at the income level of Rl. 50 m. and above.¹

In short, the Government has made little effort to collect non-oil taxes particularly from the well-to-do.

7.2.3 Taxes and oil revenues

The lack of taxation effort can be directly related to oil revenues and the credit-worthiness of oil, in the international market, which facilitates deficit financing. Let us pursue this argument initially regardless of the growth in investment, and then in relation to the investment targets. Firstly, it appears that there is an inverse relationship between changes in oil revenues and the taxation effort by the Government. The annual rates of change of oil revenues and taxes are depicted in Chart 7.2. We excluded, here, customs revenues and profit taxes on public corporations because they do not represent, as argued earlier, the effort made by the Government to collect taxes. The chart indicates that there is an inverse relationship between the annual rates of change in oil revenues and taxes almost throughout the period. The sharper the rate of change in oil revenues, the sharper the rate of change in taxes. In other words, any increase in the rate of growth of oil revenues has been accompanied by a decline in the Government effort to increase taxes, and vice versa. In particular, the rise in oil revenues in 1971 and 1973 resulted not only in a

1. The text of the tax law, article 134.



1. Excludes profit tax on Gov. corporations.

Chart 7.2 The annual rates of growth of taxes and oil revenues (1963-77).

Source: Table A.2.2.

reduction in the rate of growth of taxes but also in a reduction of taxes in absolute terms, as is indicated in the chart, by their negative rates of growth over those years.

Secondly, to take the investment targets into account we may divide changes in oil revenues into predicted and unpredicted. Taking the originally planned figures on elements of the Government revenues as indicators of predicted oil revenues, intended Government use of the revenues and of intended tax effort, Table 7.2 leads us to the following point. It appears that the prediction of an increase in oil revenues from one plan to another was accompanied by a lower relative importance of taxes in total revenues as well as a greater target rate of growth of non-oil GDP. In essence, the Government intended to accelerate non-oil GDP, yet reducing its reliance on taxing it.

Table 7.2

The percentage share of various means of finance proposed in the original text of various plans, and planned growth rate of non-oil GDP

	<u>3rd plan</u>	<u>4th plan</u>	<u>5th plan</u>
Oil revenues	51	57.4	63.2
Non-oil taxes ¹	39.8	29.5	21.2
Others (non-tax revenues)	9.1	13.1	15.6
Total revenues	<u>100</u>	<u>100</u>	<u>100</u>
Deficit as % of revenues	15	28.8	34
Av. An. growth rate of non-oil GDP	6.3	8.7	11.3

1. Includes all custom revenues.

Sources: Tables A.2.3, A.2.4, A.4.2 and A.4.4.

Meanwhile, despite the potential capacity for further increase in taxes, the Government tended towards a growing reliance on deficit financing in bridging the gap between planned revenues and planned expenditure. In fact, as indicated by the same table the relative importance of deficit financing, in relation to total revenues, exceeded that of the sum of all taxes, including customs revenues and profits taxes on state corporations, substantially. Considering the capacity for at least doubling taxes, explained earlier, there would have been no need for relying on deficit financing, except for the Fifth plan, as implied in the same table. Even for the Fifth plan the need would be minimal.

To examine the impact of unpredicted changes in oil revenues on taxation effort, as against deficit financing, we chose the specific sub-periods over which oil revenues expanded unexpectedly, 1963-65 and 1971-74 and those over which they fell short of the planned rate, 1966-70 and 1975-77. Once again we excluded custom revenues and the profit taxes on state corporation from total taxes, for the reasons already mentioned. The calculations are reported in the appendix¹ and here we will refer to the findings. Accordingly, unpredicted rapid growth in oil revenues has led to a slowing down of the rates of growth of taxes as well as deficits. Conversely, unpredicted slow growth of oil revenues caused increases in the rate of growth of both taxes and deficit financing; nevertheless the latter was increased much faster. Overall, as indicated by Table 7.3, deficit financing rather than taxes or other revenues, plays the key role in financing the extra funds needed over various plans, due to unpredicted shortfall in oil revenues and/or expansion of payments over the planned figures.²

1. See Table A.2.12 and the relevant notes.

2. See Tables A.2.3 and A.2.4 for the relevant figures on oil revenues and payment over various plans.

Table 7.3

Percentage increase in actual over planned non-oil taxes, deficit financing, and non-tax revenues

	<u>3rd plan</u>	<u>4th plan</u>	<u>5th plan</u> ¹
Non-oil taxes	2.5	41.6	10.6
Gross deficit financing	30.8	76.1	358.5
Non-tax revenues (excl. oil)	45.2	-9	12.8

1. As compared with the revised version of the plan; the figure on deficit is net of repayments of principals of domestic loans and includes counter account items.

Sources: As 7.2.

7.2.4 Taxes versus deficit financing

There is no economic reason why even for a given target investment, an unpredicted increase in oil revenues should reduce the taxation effort by the Government; yet there are political reasons. Where the extra oil revenues have accrued due to fluctuation in exports, they may be used as a means of counterfluctuation when oil revenues fall short of the target. If they are of a more permanent nature they could have been employed to reduce deficit financing. Generally speaking, there was some economic justification for a greater taxation effort not only over the Third and the Fourth plan but also over the Fifth plan as will be explained below. First we will examine the period before the Fifth plan, and discuss the case of the Fifth plan separately.

There are some advantages and disadvantages attached to taxes as compared with deficit financing in general. Taxes are a means of redistribution of income as well as finance. They can also affect the pattern of demand and

hence production, against luxury items. Accordingly, over the Third and the Fourth plans where further expansion of expenditure was possible, extra taxes could have contributed to an additional expansion of much needed education, health and other social services. Similarly, they could have contributed to greater investment, if not smaller deficits. The disadvantage of tax, as compared with deficit financing, is that its collection is difficult and it involves costs. As far as cost is concerned, perhaps extra effort would not have made a significant difference since the necessary machinery was already in operation. The most important reason for lack of extra effort for taxation appears to be the lack of 'will' by the Government because it is against the vested interests of the well-to-do ruling class.

By contrast, deficit financing is not only easier but also more advantageous to the ruling class. Deficits are financed through the banking system, borrowing from the public, and foreign loans. The banking system is the easiest means of deficit financing because the Government has direct control, and authority, over the Central Bank and the major commercial banks. Moreover, it does not put the burden of debt payments on the Government, at least when deficits are financed by the Central Bank. By comparison, borrowing from the public requires persuasion and effort; it also involves repayments. Borrowing from abroad is easier in an oil economy, as compared with other developing countries because of the 'creditworthiness' of the Government in the international market as explained in Chapter 4. The Government may not be worried about repayment of the debts even if the loans obtained are not invested, presumably because oil reserves provide the necessary means of debt servicing. In fact, it appears that the deficits were financed mainly by foreign loans and borrowing from the banking system in the

Third and the Fourth plan. The following table indicates that foreign loans constituted a considerable percentage of the deficits in both plans.

Table 7.4

Financing of gross deficits in the Third plan and the Fourth plan

	Foreign loans	Domestic loans and credits	Others ¹	Total
<u>Third plan</u>				
Amount (Rl.b.)	20.8	55	0.3	76.1
%	27.3	72.2	0.4	100
<u>Fourth plan</u>				
Amount (Rl.b.)	125.9	245.5	0.2	371.6
%	33.9	66.1	nil	100

1. Not specified debts, counter account items and error due to rounding.

Sources: Third Plan: B.M. An. Rep. 1968, p. 105, 108; Fourth Plan: as Table A.2.3.

Unfortunately the Budget does not provide necessary disaggregated data for all sources of domestic loans. However, according to the data provided by the Treasury and the Central Bank, domestic loans were financed mainly by the banking system in both plans. The contributions of households and private (non-banking) institutions to domestic loans and credits, in the form of purchase of Government bonds and securities, were 6.4 per cent in the Third plan¹ and about 14 per cent in the Fourth plan.²

1. Sold only in 1966 and 1967.

2. Calculated by this author on the basis of Table A.2.3 and B.M. An. Rep. 1968, p. 110; C.B. An. Rep. 1972, p. 39.

The only economic disadvantage of deficit financing is its possible inflationary impact. Nevertheless, as far as the Third and the Fourth plans are concerned, the availability of foreign loans, thus imports, seems to have rendered that problem unimportant. In both plans the percentage of foreign loans to deficits, shown in Table 7.4, appears to have been greater than the average propensity to import.¹ Further foreign loans have been available, moreover, to the state enterprises and corporations which are not shown in that table. For example, over the Fourth plan those items amounted to Rs. 25.3.² As a result, altogether the foreign loans reached over 40 per cent of the deficits. Further, the figures in Table 7.4 do not include loans which are not reported in the budget. These constitute short-term loans and credits obtained from the international market, IMF loans and credits and special drawing rights, and loans received for military purposes.

7.2.5 The Fifth plan

For the Fifth plan there is further economic justification for taxation of the well-to-do, even if the Government did not need the extra funds. That justification is to facilitate acceleration of growth, mitigate inflation, and most of all redistribute benefits of growth. To explain, injection of massive oil revenues into the economy adds to the liquidity in the private sector without exerting any 'crowding-out' effect as pointed out in the previous chapter. In such a situation taxation in general, particularly taxation of the well-to-do, could reduce liquidity in the private sector and limit expansion of consumption and of demand for housing. As discussed in Chapter 5, the

1. The propensities to import were 18.5 and 26.2 at the end of the Third and Fourth plans, respectively (Tables A.4.6 and A.5.1).

2. Based on Table A.2.15.

rapid acceleration of those items exacerbated the physical obstacles to expansion of productive capacity. Provided that the extra taxes raised were not returned to the economy in the form of unproductive expenditures, or that the marginal propensity to^{make} 'unproductive expenditure' in the public sector was smaller than that in the private sector, growth in the productive capacity and mitigation of inflation would be facilitated by taxation. We will pick up the former points at the end of this section, and deal with the latter in Chapter 8. Here, it will be shown that not only did the Government make no effort to limit the liquidity in the private sector by taxation or other fiscal measures, but it also expanded it in addition to oil revenues by various means considered below.

In the early stages of the plan the Government relaxed taxes, increased salaries in the public sector and repaid its domestic debts. As shown earlier in this section, taxes were reduced in 1972-74 not only in relation to non-oil GDP (Chart 7.1), but more importantly in absolute terms (Chart 7.2). Moreover, over 1973-75 alone wages and salaries in the public sector were raised by about 58 per cent,¹ exceeding by twice the inflation rate which stood around 27 per cent over the same period.² Finally, over 1974-75, the net repayments by the Government of domestic loans came to over Rl. 57 b.³

Later on, over 1976-77, the Government embarked on immense deficit financing despite the fact that it had already witnessed bottlenecks in acceleration of growth as well as rising inflation. In 1977 alone the net

1. The figures on wages and salaries are based on the deflator of public services derived from Tables A.4.3 and A.4.4 .

2. Table A.8.3.

3. Table A.2.2.

deficit was over Rl. 388 b., equal to about 26 per cent of oil revenues in the same year.

Even though enough foreign exchange was available, deficit financing was not a sound policy because it added to the demand-pull which had already put pressure on the physical capacity of the economy for acceleration of growth. Had the budget been financed by non-oil taxes, the inflationary impacts, and other negative impacts of Government expenditures on the process of acceleration, would have been smaller. To explain, while taxes exert some 'crowding^{-out} effect' as mentioned earlier, deficits, if financed by foreign loans and borrowing from the central Bank, have no crowding effect. Hence they add, like oil revenues, to the net injection of funds into the economy. The budget does not provide comprehensive disaggregated data on the sources of deficit financing. Out of Rl. 1031 b. gross deficits for the period of the plan, foreign loans account for over 8%, domestic loans and credits about 43%; the rest are counter account and unspecified items. Concerning the domestic loans and credits, it is very likely that the bulk of the funds was provided by the Central Bank. In fact, annual Balance Sheets of the Central Bank indicate that over 1972-77, the net debts of the Central Government to the Bank rose by Rl. 178.1 b,¹ which constituted the bulk, about half of the total net domestic loans and credits of Rl. 370 b.²

We have earlier outlined two conditions for a positive effect of taxation on acceleration of growth and mitigation of inflation: that the extra revenues collected are not returned to the economy, or if they were,

1. Based on the B.M.I. An. Rep. 1977, p. 260.

2. Based on Table A.2.2.

the marginal propensity to spend on unproductive expenditures in the public sector is smaller than that in the private sector.¹ The first condition raises a question: what could the Government do with the extra revenues if extra taxation leads to a budget surplus? Apart from the counter-fluctuation policy and reducing deficit financing, one answer is to postpone spending the revenues until the physical capacity of the economy permits, and invest the revenues abroad in the meantime. Another is to remove the surplus by conserving oil for the future. We have already examined the merits and problems of each and refer the reader to Chapter 3. Let us again emphasise, however, that the main issue seems to have been the lack of political will rather than the lack of knowledge of an alternative sound economic policy. While the Government lacked the political will to tax the well-to-do, it was determined to spend whatever revenues it was possible to derive from oil as quickly as it could, particularly on unproductive purposes. Moreover, as will be shown in the next chapter, where the argument will be taken up again, the propensity to spend on 'unproductive expenditures' was in fact greater, in the margin for the public sector as compared with the private sector.

* * *

To summarise this section, the Government had little means of influencing the structure of expenditures in the private sector through taxes because those were relatively small. Oil revenues provided the means of finance, and the Government made scant effort to tax the well-to-do. It relied mainly on deficit financing, which was also facilitated by 'creditworthiness effect' of oil, instead of taxes. Over the Fifth plan, not only did the Government

1. We considered the sum of consumption and expenditures on housing in the private sector as 'unproductive expenditure' in that sector (see Chapter 8). For the definition in the public sector see the following section.

not try to limit liquidity in the private sector, but it also expanded it, in addition to injection of ample^{oil} revenues, by lower taxes, repayments of domestic debts at the beginning of the plan, and later on by ample deficit financing.

7.3 Functional Allocation of Government Expenditures

7.3.1 Some general notes

The interest of the nation is best served if the Government distributes the budget expenditures in accordance with the nation's development objectives.

To remind the reader, we defined the long-run objectives of development as: identifying the basic needs and raising the level of living of the masses of the people.¹ We have explained that the main economic elements of these objectives are two: growth of the productive capacity outside oil in a way to satisfy the material needs of the masses; and provision of such social needs as education, health, and public utilities. As mentioned earlier there is little conflict between the two. Growth of the productive capacity requires expansion of backing-up services. These include economic infrastructure, transport, communications etc; and such socio-economic infrastructure as education, training, and even health to the extent that they contribute to increase in productivity.

Achievement of the objectives outlined above require expansion of expenditures on those lines; and any expansion of expenditures which do not contribute to those objectives limits prospects for acceleration of growth of output because they compete with the former group of expenditures in terms of physical resources. The expectations and aspirations of the masses for a

1. See 1.2.

better living were boosted after the 1973 price rise. Nevertheless the objectives and preference of the Government, we will show, were not in harmony with the interest of the nation. The Government gave priority to acceleration of unproductive expenditures, to be defined shortly, rather than those which contribute to expansion of the productive capacity. Moreover, instead of fulfilling^{the}/aspiration of the masses for equal distribution of benefits of development and expansion of social services, it adhered to military expansion and oppression. While military expansion was harmful to the masses, it strengthened the external links by intensifying dependence on the western countries and helping them in the recycling of oil money.

For purposes of our argument we reclassified the budget expenditure items into two general categories: those which are necessary for, and contribute to, the expansion of production capacity, in one way or another; and those which do not necessarily do so. For simplicity, let us call them productive expenditures and unproductive expenditures respectively. It is not always easy to draw a line between those; much depends on the definition given to 'productive' which is, to a large extent arbitrary. Roughly speaking, taking the biggest contribution to production capacity for expansion of goods and services needed by the masses as a criterion, we may include in productive expenditures: investment outlays on expansion of production capacity in various industries (excluding military industries and buildings), agriculture, electricity and water, and expenditures on backing-up services as defined above. Unproductive expenditures consist of all military expenditures, defence and internal order and security; and of expenditures for general administration, 'general affairs', and 'miscellaneous expenditures'.¹

1. See Appendix A.2 for the coverage.

In a strict sense one could include only education, training and health in backing-up services. Nevertheless, we **cover** all social services for simplicity; inclusion of other^{social}/expenditures does not change our findings, as will be shown shortly. We included in backing-up services not only relevant investment outlays which appear in the budget, but also corresponding 'current expenditures'. Similarly, we included in unproductive expenditures relevant investment outlays in addition to 'current items'. For example, 'investment outlays' in buildings on military bases, or Government building for general administration are regarded as unproductive.¹ Note that we do not mean that a country can do without unproductive expenditures outlined above. Certainly, some of those expenditures are required for one reason or another. For example, administration, justice, legislation, internal and external security - all require expenditures without a minimum of which the everyday running of the country may face difficulties. None the less, as oil revenues increase, there is a choice, at the margin, between productive and unproductive expenditures, and such classification reveals the Government priority in allocation of the budget and its^{real}/perception of 'needs', as against its pretended objectives and priorities, which are to accelerate growth and satisfy the basic needs of the people.

7.3.2 Productive and unproductive expenditures

It appears that the Government has acted against its stated objective of acceleration of growth; it has ironically given priority to unproductive expenditures whenever growth was to be accelerated, particularly after 1973. According to the text of the Fourth plan, growth was to accelerate over

1. To differentiate between various expenditures, we had to undergo further reclassification of the figures derived from the budget, the definitions of which were not harmonious, as explained in Appendix A .2.

1967-72, as compared with the Third plan; then after the first oil price rise (1970) the Government aimed at a still higher growth rate; and in 1973 the Fifth plan was revised considerably upward as mentioned in Chapter 1.¹ Chart 7.3 indicates that in fact the relative importance of productive expenditures started to decline in 1967; the decline was accentuated in 1971 and 1973, before it showed some rise. By contrast, the relative share of unproductive expenditures increased after 1967 particularly after 1971.² As a result, unproductive expenditures have exceeded productive expenditures since 1972. What is more, acceleration in unproductive expenditures was colossal after the first price rise, particularly over 1973-75. In fact, the following table suggests that over 1970-76 the annual average growth rate of unproductive expenditures jumped up by about 2.7 times over the previous period, as against 1.6 times for productive expenditures.

Table 7.5

Average annual percentage growth rate of Government expenditure (in current prices) over various periods

	<u>1963-70</u>	<u>1970-76</u>	<u>1973-75</u>
unproductive	17.9	48.3	74.1
productive	21.2	33.8	56.7

Sources: Table A.2.1.

1. See pp. 20-21 and Table A. 4.5.
 2. Note that the decline in the relative share of both expenditures during 1969-71 was partly a statistical phenomenon resulting from the sharp increase in the relative importance of debt services. However, even then the share of productive expenditures declined faster.

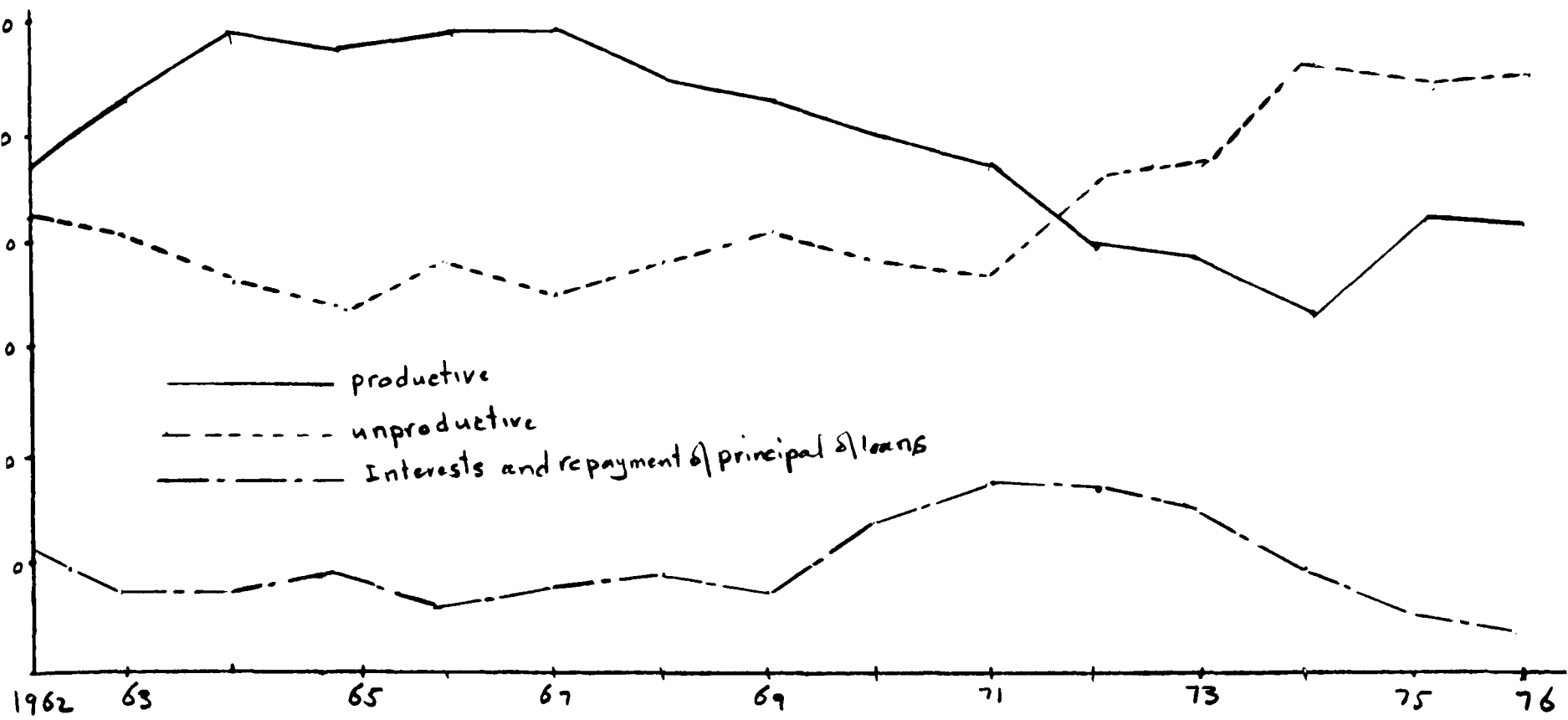


Chart 7.3 Distribution of Government payments* (1962-76)

* Excludes investments abroad.

Sources: Based on Table A.2.1.

We strongly believe that the Government has never genuinely assigned priority to productive expenditures, and both 1962-67 and 1975 are exceptional periods. The former period being so because what actually happened was not in our belief the Government's real intention. It was imposed on the Government by two forces: internal problems; and external pressure. Let us explore the matter in slightly more detail. Over 1960-63 the country was faced with an economic crisis due to a rapid expansion of consumption expenditures accompanied by relatively slow growth in oil revenues. A large deficit in the balance of payments developed. The economic crisis in turn led to political crisis and social upheaval. To remedy the situation a request was made to the IMF for loans. IMF imposed a 'stabilisation programme' on the Government.¹ Moreover, because of financial problems, the Government had to restrict the growth of military expenditures and curb other unproductive expenditures. Under these conditions the text of the Third plan was drafted and came into effect in 1963. However, as soon as the stabilisation programme was lifted in 1964, restriction of growth of unproductive expenditures was also ended. The plan was revised for the rest of the period of the plan, i.e. 1965-67, and the relative share of productive expenditures did not increase as before (see Chart 7.3).

7.3.3 Components of productive expenditures

Even if we exclude social services other than education from productive expenditures the general conclusion is hardly changed. In fact Chart 7.4.1 indicates that the inclusion of those services has positively contributed to the share of productive expenditures after 1970². At any rate we will examine

1. See Outline of the 3rd Plan, pp. 17-21.

2. The distance between curves (1) and (4) represents share of the respective services.

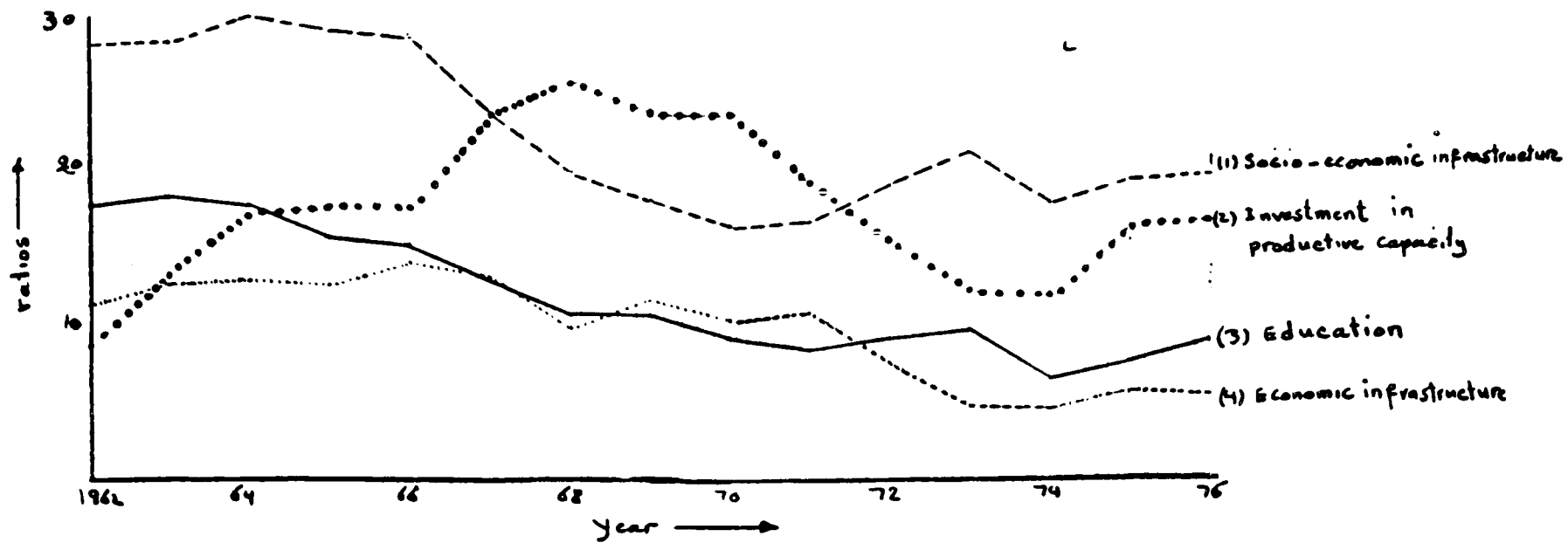


Chart 7.4.i Distribution of productive expenditures of the Government (%) to total Government expenditures.

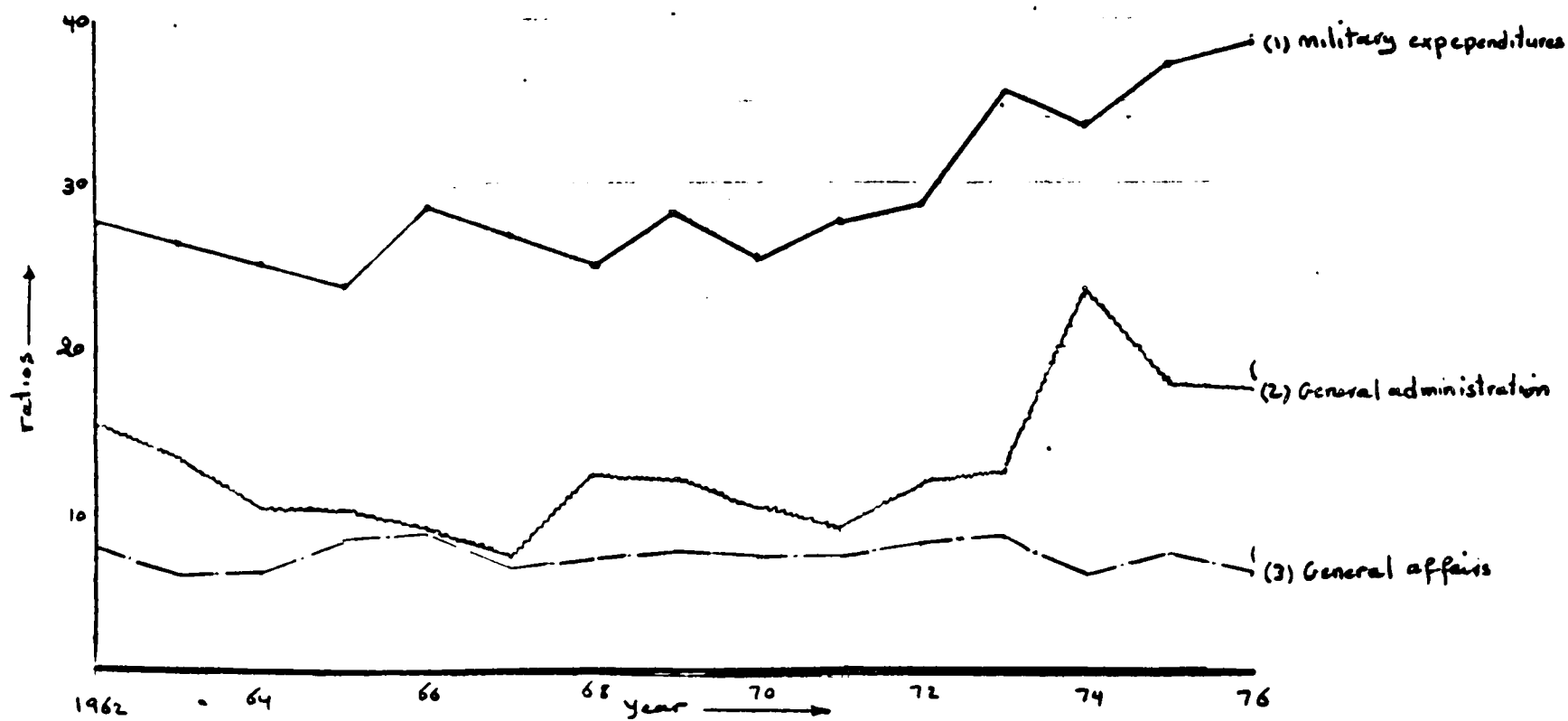


Chart 7.4.ii Distribution of unproductive expenditures of the Government.

Sources: Table A.2.1.

expenditures on those services separately. Let us first emphasise that our findings at the aggregate level are more or less relevant to the other components of productive expenditures contribution of which to production capacity is more certain than those of ^{other} social services. Those components are investment in productive capacity, economic infrastructure, and education.

At first sight the decline in the relative share of investment in Government payments for production capacity over 1971-76 could be attributed to limited prospects for investment due to shortage of infrastructure. In other words, it may be attributed to the technical and administrative lags between the increase in oil revenues and their allocation to production capacity. Though there is some truth in this argument, it does not justify either the decline in the share of backing-up services or the sharp fall in the share of productive expenditures, as a whole, against unproductive expenditures. There are also some other reasons. Firstly, the fact that backing-up services limited expansion of production capacity implies that the Government should have paid enough attention to the development of these services. It is true that the increase in oil revenues was unforeseen, and that development of economic and socio-economic infrastructure takes time and has 'lumpy' features. Note that however ^{long} the lag between the rise in the price of oil and development of backing-up services may be, the lag between the rise in the price of oil and allocation to backing-up services is not unduly so unless the planning body is inefficient. Chart 7.4.1 indicates neglect of those services over the Fifth plan period. Moreover, it also shows that this started in 1966 despite the fact that fast acceleration of growth was the main short-run and long-run objective of the Government. It seems that neglect of those services has been a part

of the general tendency of the Government to reduce the relative share of productive expenditures in favour of unproductive.

Secondly, where the prospects for investment in production capacity are limited by backing-up services, fast growth of unproductive expenditures puts extra pressure on them. Hence, it further limits prospect for investments.¹

Above all, limited prospects for investment are not a justification. The Government could have run budget surpluses and invested them abroad in order to utilise them in the future when domestic conditions would allow this; alternatively the rate of depletion of oil could have been reduced as suggested earlier in this chapter. Nevertheless, we know that in practice not only did the Government not run a budget surplus for the Fifth plan period, but it ran substantial deficits.² We also know that though the Government did invest abroad, the amount was relatively small, and it was not put to its best use. The total amount of loans and investment abroad during the plan period did not exceed Rl. 496.2 b. (about \$ 7 b.), which was about 6 per cent of the total budget, or about 9 per cent of total oil revenues over the same period.³ Furthermore, the bulk of investment was in the form of loans provided to foreign Governments for political reasons. For example, \$ 1.2 b. was lent to the British water authorities below the going interest rate in the international market.

1. See p. 50.

2. See pp. 214-20.

3. Based on Table A.2.2.

Moreover, the investments in equities do not appear promising. The relevant figures are not published by the Government. However, one could gauge from the press that purchases of 25 per cent of shares of Krupps metal company of Germany, and 20 per cent of shares of Union Carbide of U.S.A. were two major, if not the only, items of investment in equities. They amounted to about \$ 100 m. It is believed by the media that both shares were purchased well above the market price. The Government claimed that the purpose of the purchase was to gain access to the technology of these companies. Indeed, one wonders how such an access is possible unless by becoming a major shareholder. In effect, foreign investments also involved some degree of waste.

Note that not all of the expenditures which we have regarded as productive contribute necessarily to productive capacity. Investment in atomic power stations is one example. This project occupied an increasing proportion of not only investment in electricity but also total productive

Table 7.6

¹
Investment in atomic power stations

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Investment in atomic stations (Rl.b.)	0.4	10.5	68.7	105.9
As % of investment in electricity	2.6	27.7	63	53.4
As % of productive expenditures	0.1	1.6	9.4	8.7

1. Does not include research and purchase of uranium.

Source: Based on the annual Budget Acts and Table A.2.1.

investment as is shown in Table 7.6. There is not a clear written policy as regards development of these stations¹ apart from the statement that "the country is to produce at least 23,000 mega-watts of atomic energy by 1990, and to purchase about 20 stations from abroad."² Similarly, the project seems based on no study of costs and benefits of the plants; in fact, we could not find any estimates of the total costs of each plant or the project as a whole. The yearly financial budget of the project, approved by the plan organisation, covers only the items of costs over the relevant year and there is no reference to total fixed or variable costs to be used for further study. In one of these yearly projects the economic justification for development of the stations is vaguely mentioned to be: 'access to a new source of energy (atomic energy) for domestic use (sic), assistance to development of nuclear technology, and increase in employment'.³ It is added: 'the final decision on development of the industry and signing the purchase contracts requires research on its various aspects, e.g. technical, legal, economic and financial Nevertheless to prevent waste of time [not money] the necessary arrangement should be made in order that the manufacturer companies could start the job'.⁴ In another case it is mentioned 'no study has been undertaken; the project is initiated on the basis of a Royal Decree'.⁵ The line of argument presented by the Shah was: 'to develop nuclear energy as a substitute for oil which is exhaustible'.⁶

Lack of information and data does not permit us to examine the nuclear projects; nevertheless their rationale is open to a great doubt. They raise

1. It is mentioned in the text of the plan only that the country is 'to take essential action for utilisation of nuclear energy'. P.B.O., The Fifth Plan, revised, a summary, p. 137.

2. P.B.O., the record office, project no. 40301236, approved in 1975, p. 2.

3. P.B.O., the record office, project no, 40301244, 1975, p. 3.

4. Ibid.,

5. P.B.O., project no. 403011243, 1975, p. 2.

6. Keyhan (3 Tir 1354 [1975]).

the following questions. Firstly, is nuclear power the cheapest source of energy for Iran? For example, an alternative which could have been considered was generation of electricity by gas. While the country has to import expensive processed uranium from abroad she may use, as an input, the associated gas,¹ a large proportion of which is being flared. Even as late as 1977 over 44 per cent of the associated gas was flared.² Moreover, the fixed costs of relevant generators must be smaller in the case of gas as against uranium. Secondly, since rapid growth of electricity within the period of the Fifth plan was essential, was it the right policy to concentrate on expansion of nuclear plants which would take a long time to start operation? While about half of the financial resources spent on electricity were allocated to those projects (see Table 7.6), none of the plants was to come into operation before early 1980.³ Finally, would not gas generators be preferable in terms of environmental and safety considerations, particularly for a country which lacks the necessary skill for operating the nuclear plant and safeguarding against its possible disaster.

7.4 Social Services

Even if one assumes that expenditure on social services made no contribution to productive capacity, their expansion is still preferred to the unproductive expenditures outlined earlier in this section. While the latter expenditures hardly provide any benefits to the masses of the people, the former can provide a framework for supply of those services to the masses, particularly if the distribution is uneven. None the less, that assumption is, in our view, wrong. Education and training contribute to production by

1. In addition the country possesses large reserves of non-associated gas. The massive exports of gas have so far proved uneconomical because of the large cost of liquidification.

2. Based on B.M.I. An. Rep., 1977, p. 190.

3. P.B.O., op. cit.

raising productivity; physical and mental health as well as nourishment increase the ability to work. At any rate, despite the aspiration of the masses for better social services, particularly education, the Government gave a lower priority to these services, as compared with 'unproductive expenditure'.

In fact, Chart 7.4.1 indicates that in spite of its slight increase in recent years, the share of social services at the end of the period under study was substantially smaller than that at its beginning. Furthermore, the increase in the shares of social expenditures in recent years was mainly due to a rapid increase in subsidies on basic food items and housing. In 1974 these expenditures together constituted over twenty eight per cent of total social expenditures, as against less than one per cent before the rise in the price of oil, according to Table 7.7. If these items are excluded, the share of social services in total expenditures ^{in 1974} would decline to about 13.7%, lower than that in 1970 (see Chart 7.4.1). Of those two items, subsidies were paid to compensate for inflation. Hence, to that extent it contributed to maintenance, rather than improvement of the level of well-being of the community.

Table 7.7

Relative importance of subsidies and housing in social expenditures

	<u>subsidies</u>		<u>housing</u>	
	<u>Rl.b.</u>	<u>as % of social exp.</u>	<u>Rl.b.</u>	<u>as % of social exp.</u>
1969	-	-	0.3	0.8
1971	-	-	4.7	8.9
1972	6	5.4	13.5	12.3
1973	28.8	9.4	51.8	16.9
1974	32.4	9.2	66.7	19

Sources: Based on the Budget Acts 1971, 1973, 1974, 1978.

Disaggregated data on actual expenditures on housing are not published. However, the approved list of projects for 1974, 1975 and 1976 shows that the bulk of expenditures were allocated to "unidentified" projects, as is shown in Table 7.8. These items are not included in any alternatives shown in row (2) of the table. Probably they are either housing projects for military staff, or a part of expenditures on military bases hidden under expenditures on social services. In the former case, only a small minority of the Governmental group, perhaps the well-to-do ones, benefited from the project; in the latter case it was an item serving military expansion. This case seems closer to reality

Table 7.8

Distribution of investment outlays on housing in recent years (approved)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1978</u>
1. Total investments Rl.b.	42.4	66.4	56.6	47
2. Gov. employees, workers, cheap housing, credits (%)	43.9	33.2	41.3	100
3. Others (unidentified) (%)	56.1	66.8	59.7	-

Sources: S.B.B. Etebari Tarhai Omrani, 1974, 1975, Section (1), p. 26, Section (2), p. 32, 1976, pp. 32-4 (1972), p. 32.

because the "unidentified" projects were undertaken by the Ministry of Housing and Urban Development which was also responsible for construction of military bases. Those projects disappear from the budget in 1978 (Table 7.8), in which no allocation was made for construction of military bases either.¹

1. These expenditures are entitled, in the budget, 'other Government buildings' under 'Public Affairs'. The allocation to military bases in 1978 was nil against Rl. 45.2 b for 1976 (Budget Act 1978, section 8, p. 5).

To summarise this and the previous section, it appears that despite the apparent objective of growth of output the Government gave priority to expansion of unproductive expenditures which were responsible for exacerbating the problems of acceleration. No matter how one may treat expenditures on social services, productive or unproductive, they were assigned a lower priority as compared with military and other unproductive expenditures which will be dealt with below.

7.5 Unproductive Expenditures and Military Expansion

Instead of fulfilment of the aspirations of the masses of the people the Government tended towards military expansion and suppression of those expectations. Military expenditures have, in theory, two roles to play: political and economic. From the political point of view some degree of military expenditure is unavoidable for strategic reasons. Nevertheless, when these expenditures are used for domestic repression they harm the public instead of benefiting them, even though for national accounting purposes they are regarded as 'public' consumption. Even for strategic purposes expansion of military expenditures may increase dependence on abroad, for import of armaments. One possible economic impact of military expenditures is its 'demand inducing effect' which could promote some domestic industries. One should note however that, expansion of the commodities which are not socially needed should not be given priority. At any rate, we will reveal here that while military activities have accounted for expansion of unproductive expenditures, they established increasingly important linkages with foreign economies, rather than the domestic sector.

Chart 7.4.2 depicts the share of two categories of unproductive expenditures, i.e. military expenditures and general administration. Note

that the distance between curves (2) and (3) represents the share of 'miscellaneous' expenditures. The chart indicates two general points. Firstly, military expenditures constitute the bulk of unproductive expenditures throughout the period; and they hold an important position as a percentage of total Government expenditures. Secondly, the share of general 'affairs', which denote the costs of administration, has been relatively small and has remained almost constant; by comparison both military expenditures and 'miscellaneous' expenditures have been responsible for the explosion of unproductive expenditures since 1970.

It appears moreover that for the period after the first price rise of oil 'miscellaneous' expenditures also contained a growing amount of military expenditures. We classified 'miscellaneous'¹ expenditures into two groups in Table 7.9. The first group consists of the items related to increases in wages and salaries of Government employees under the public employment act, small items of 'obligations', and 'other' minor items. The second group consists of some obscure unidentified items. These are 'expenditures of the Government', 'special expenditures of executive Government agencies', 'confidential items', 'necessary' or 'emergency' items, and last, but not least, of all 'special payments'. This last item was added to the list in 1973 after the rise in the price of oil. According to the table, the second group constituted the bulk of 'miscellaneous' expenditures, particularly in 1974 when they accounted for over 85 per cent of the total. One could guess that these items, i.e. the second group, were part of expenditures of the security police for which there is no explicit heading anywhere in the annual budget.² Hence one can safely include them in military expenditures.

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1. The reader is reminded that our coverage of miscellaneous expenditures is different from those of the Budget Acts. See Appendix A.2.
 2. In addition, a part of the expenditures of the Security Police was included in the budget of the office of the Prime Minister and various ministers under 'secret items'. The sum of these items was Rl. 3.4 b for 1974. Moreover, some of the expenditures of the Security Police were hidden under the budget of various ministries under confidential 'items' or training for 'civil defence'.

Table 7.9

Distribution of miscellaneous expenditures, 1970, 1974

	<u>1970</u>	<u>1974</u>
Total in Rl.b.	7.8	234.5
Share of the first group (%)	38	14.6
Employment act	(29)	(9.9)
'Obligation' and other small items	(9)	(4.7)
Share of the second group	62	85.7
Special payments	-	(74.9)
Other unidentified	(62)	(10.8)

Sources: Based on Table A.2.2 and the Budget Acts 1972 and 1976.

When we did so, the percentage share of military expenditures in unproductive expenditures rose from about 70 to 74.6 in 1970, and from 75.6 to 84.5 in 1974.¹ In essence, one may regard military expenditures almost exclusively as being responsible for the sharp increase in the share of unproductive expenditures in the Government payments since the first price rise of oil, i.e. 1970.

Table 7.10 suggests that the demand inducing effect of military material consumption has rapidly declined in favour of leakages abroad. Further, some of the materials bought inside the country have been imported by the private sector and these are not included in the figure. The increased importance of imported materials is mainly due to demand for technologically sophisticated weapons and partly because of limited domestic supply of other tradeable goods.

1. The corresponding figure for 1976 increased from 69 to 83 (based on Table A.2.1 and the Budget Act 1976).

Table 7.10

Importance of defence material in total public consumption of goods (%)

	<u>1964</u>	<u>1970</u>	<u>1974</u>	<u>1975</u>
1. Total defence	57.6	74.6	76.8	77.4
2. Imported	(5.4)	(34)	(51)	(54.3)

Sources: Based on Table A.2.14.

In addition to the point made earlier, there are a few reasons why the demand effect of military expenditures is not, in our view, desirable in general, and in a development plan with an aim of rapid and accelerating growth in particular. Let us classify the military demand into two categories: tradeables, armaments and other commodities; and non-tradeables, e.g. building materials. Firstly, the rapid expansion of the tradeable goods puts pressure on the balance of payments because of lack of production capacity, in the case of sophisticated weapons, or limited domestic supply, in the case of other commodities. Secondly, to the extent that domestic supply of armaments is expanded, it would be detrimental to the growth of other industries. The use of factors of production in the military industry limits prospects for growth of other industries. The structure of output changes in favour of armaments at the expense of 'necessities'. Thirdly, the rapid expansion of the non-tradeable goods limits their supply to other uses and creates inflationary pressures.¹

1. Note that what we have said about military material consumption is also more or less true in the case of military services.

Expenditures on social services and military activities: a comparison

Before ending this section let us provide the reader with further evidence for the high priority given by the Government to military expenditures as compared to social services. We have compared, in Table 7.11, the relative share of social services and defence expenditures for Iran, five oil-exporting countries, as well as 22 developing countries for which data are available.¹ Since the data on expenditures for internal security were not available for all countries, we compared only the data on defence. Defence expenditures usually constitute the bulk of military expenditures.² For developing countries the data do not include 'fixed capital expenditures', again because the necessary data were not available. Hence, we also excluded them from the figure for Iran.

Table 7.11

Percentage ratio of defence expenditures and expenditures on social services* to GDP, Iran and LDCs (1975)

	<u>Iran</u>	<u>Oil Exp. Count.</u> ¹	<u>LDCs</u>
Social services	5.81	6.15	6.46
Defence	15.7	6.87	6.22

* Final consumption expenditures only.

1. Oil Exporting Countries.

Sources: Iran - as Table 7.7; LDCs - based on Table A.2.17

1. The oil-exporting countries include Algeria, Libya, Saudi Arabia, Venezuela and Gabon; for the list of LDCs, see Table A.2.17

2. For Iran defence expenditures constituted about 93 per cent of military expenditures in 1975; based on Tables 7.11 and A.2.1.

The table indicates that for Iran the share of social services in GDP is less than the average for other countries, while she spends a much larger proportion of her GDP on defence. In fact, for Iran this ratio is greater than that for all individual countries under study, except for Israel (which has been engaged in a state of hostility with Arabs for a long time).

7.6 Geographical Distribution of Government Expenditures

By the geographical distribution here we mean distribution of Government expenditure between urban and rural areas, and among various regions. In relation to the objectives of development and diversification, consideration of the geographical distribution of Government expenditures, both current and development expenditures, is important for two main reasons: social and economic. First of all, the beneficiaries of public services, particularly social services, should be the masses of the people in accordance with the social objectives of development. Secondly, the development expenditures in the rural areas play the following roles. On the one hand they generate income for the poor peasants. On the other hand, to the extent that they contribute to the development of agriculture, they not only facilitate provision of foods, basic needs, but they also contribute to the bargaining ability of the country in its international trade relations.¹

However important these issues may be for the achievement of the development objective, and no matter how much weight the Government has given, in words, to 'social justice' and equal distribution of benefits of development, in practice we will show there seem to have been two biases in

1. See 3.6.2 and 3.6.3.

allocation of Government expenditures: urban bias, bias in favour of the urban areas; and centralisation bias, bias in favour of the capital and provincial centres. There are some socio-economic reasons for such biases. The large bureaucratic machine created by the central Government is located in the urban areas, particularly in the capital and the provincial centres. The vested interest of the bureaucracy lies in those areas. Moreover, the existence of oil revenues allowed the Government to make the landlords powerless through undertaking land reform. Furthermore, the peasants had no say in the Government or in the allocation of expenditures.

Comprehensive data on geographical distribution of Government expenditures are not available. We will make an attempt to back our argument with what pieces of evidence are available.

7.6.1 Current expenditures

The bureaucratic machine is located basically in the cities, particularly in the capital and other large cities; and the beneficiaries of public consumption, excluding those who remit abroad, are the dwellers of those cities. According to one estimate, in 1971, out of total Government employees over 89 per cent lived in the urban areas, of which 43 per cent lived in the capital and other urban areas of the central province.¹ Certainly, the capital, Tehran, is responsible for such a large figure; the share of other urban areas of the central province is minimal. Tehran also accounts for the bulk of public consumption. For example, in the same year the share of the central province in public consumption was over 52 per cent.² Again one

1. M.A.I., Salnamah 1977, pp. 46-7, based on the sample population survey of 1971.

2. Based on the files in P.B.O., The Regional Planning Directory, which in turn is based on the Bataille Report on Regional Planning. (P.B.O. unpub. 1973).

could guess that Tehran is the main recipient in the central province.

In sharp contrast to the capital, the rural areas and small towns, particularly the former, have hardly benefited from public consumption. In fact apart from some social services, no public services are available in the rural areas.¹ These services consist of health, social security, and education. However, the available pieces of data on these services suggest that, broadly speaking, the share of both the rural areas and small towns in the social services is small. For example, according to Table 7.12 the share of rural areas in the total expenditures on Health and Social Security was extraordinarily low in 1972; and the pattern of distribution changed further against rural areas since then, i.e. following

Table 7.12

Share of rural areas in expenditures on health and social security (1972, 1976)

<u>Year</u>	<u>Expenditures*</u>		<u>Population</u>
	<u>Rl.b.</u>	<u>%</u>	<u>%</u>
1972	2.2	14.7	57.7
1976	6.9	10.5	53.3

* Includes expenditures financed by special revenues.

Sources: Table A.8.1 , and the Budget Acts 1974 and 1978.

the rise in the price of oil. The data on the regional distribution of current expenditures of the Ministry of Education,² for the academic year 1975-76, indicate the bias against the provinces and in favour of the capital. Accordingly, the per capita expenditures were Rl. 2372 for Tehran, and Rl. 1225 for the rest of the country.³ The data reveal the disparity further

1. We ignore services of Gendarmerie which were used mainly for repression.
2. The data on the regional distribution of health expenditures and urban-rural distribution of expenditures on education were not available.
3. Based on Table A.2.13.

Table 7.13

Various indicators of geographical distribution of health services in 1976
(per 10,000 population)

	<u>Total</u>	<u>Tehran</u>	<u>Provincial centres</u>	<u>Other towns and rural areas</u>
Physicians	4	13.6	9.77	1.33
Dentists	0.59	2.29	1.03	0.17
Hospital beds	16.1	47.9	40.1	5.1

Sources: Author's calculation based on M.A.I. Salnamah 1977, pp. 104-7, 110-2; and 5 per cent sample of 1976 population census.

Table 7.14

Indicators of education in Iran (1976)

	<u>Total</u>	<u>Rural</u>	<u>Urban</u>	<u>Teh.</u>
1. Literacy rate* (%)	47.5	30.6	65.5	75.9 ²
2. Population attending school to population at school age ¹ (%)	63.5	54.1	71.9	76.4 ^{2,3}
3. No. of students ⁴ (m.)	7.7	2.66	5.04	1.21
4. No. of teachers ⁴ (1000)	233.1	89.7	133.4	n.a.
5. Population (%)	100	51.5	48.5	13.3

* Those who can read and write a simple text.

1. Those between the ages of 6 and 18.

2. 1972.

3. Those between the ages of 6 and 15.

4. Academic year 1975-76.

Sources: Lines 1, 2, 3: Based on M.A.I. op. cit., pp. 25-7, except for Teh., lines 1 and 2 which are based on M.A.I. Nataye-e Amargiri Nirui-e Ensani [Manpower Survey] 1972 (M.A.I., Ser. No. 357), Tables 3 and 4; others: Veazarate Amuzesh., as Table A.2.13, pp. 36 and 57.

if we compare Tehran with Eylam which feature the maximum and minimum per capita expenditures^{respectively}. Accordingly, the relevant figure for the former was 5.5 times greater than the latter.¹

As a result of the low level of Government expenditures on social services, these services are, generally speaking, poor in Iran as suggested by the relevant indicators in Tables 7.13 and 7.14. Note also that a part of the services concerned are provided by the private sector.² The distribution of social services tends to be biased against small towns and rural areas, as expected, according to the same tables. As regards health, the conditions in many rural areas are much worse than those shown in Table 7.13. For example, in 1972 there was only one physician for every 44,000 people in the rural areas of Eastern Azarbayegan.³ Obviously, rural dwellers have, in theory, access to health facilities in the urban areas. Nevertheless, in practice, that access involves travel expenses which might deter the rural dwellers from using the facilities if they cannot afford them.

7.6.2 Rural areas and development expenditures

We have already revealed in Chapter 6 that the Government has been biased against agriculture in providing incentives for development of this sector, despite its stated objective of rapid development of that sector and improvement in the standard of living in rural areas. We have also mentioned that development of agriculture requires, in addition to incentives, provision

1. Ibid.

2. For example, in 1976, over 15 per cent of hospital beds belonged to the private sector (M.A.I. Salnamah 1977, p. 110); and over 9 per cent of students were learning in private schools (Vezarats Amuzesh, op. cit., p. 39).

3. S.B.B., Barnamahē Panjom Omrani Ostan Azarbayegana Sharghi (Teh. 1975), p. 221.

of infrastructure, agricultural services and also direct Government investment if the private sector fails to respond to incentives. Expansion of those expenditures in the rural areas also helps to achieve a better distribution of benefits of development. Yet the Government increasingly neglected this sector as compared to the other sectors of the economy in its development plans.

According to the following table the share of rural areas in total development expenditures has declined from one plan to another. The decline in the ratio becomes more noticeable when expenditures on water are excluded.¹ The water projects had the double objectives of providing water for agriculture and for the urban areas.²

Table 7.15

Share of rural areas in total development expenditures

	<u>3rd plan</u>	<u>4th plan</u>	<u>5th plan</u>
Amount (Rl.h.)*	41	87.1	324.3
As a % of Dev. Exp.	22.2	17.8	12.7
Agriculture and rural dev., excluding water projects (%)	(12.4)	(9)	(7.1)

* Includes Ag. rural development, and water.

Sources: Based on Annual Budget Acts.

One may argue that a relatively small contribution of development expenditures to agriculture would be justified if the private sector showed

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1. Note that agriculture constituted about 33 and 14 of non-oil GDP in 1963 and 1977; and the rural areas accommodated over half the population throughout the period.
 2. In the Fifth plan about half of expenditures on water projects were for rural areas.

enough interest in investing in this sector to achieve the objectives of development; or if agriculture were providing enough surplus to feed the growing urban population; or finally if the marginal return on investment in other sectors were much greater than that in agriculture. We know that the first and the second justifications do not apply;¹ but it is perhaps true that return on investment in agriculture was relatively small. However, this is not, in our view, a justification for the Government to neglect allocation of funds to agriculture, for three reasons. Firstly, the price structure was distorted against agriculture mainly due to Government policies as explained in Chapter 5. Secondly, in the case of agriculture efficiency alone should not be taken as a criterion, because of the contribution of agriculture to bargaining power which is essential in particular to an oil economy as argued in Chapter 3. Thirdly, current prices do not reflect future needs. The presence of oil revenues allows abundant ^{of commodities} supply, through imports, at the present time; exhaustion of oil makes imports more difficult.

We have already mentioned in Chapter 5 that bias against agriculture arose not only because of lack of perceived urgent need for development of this sector, but also due to the fact that after the land reform there has been no power group within the Government to back the interest of the rural dwellers. This power gap is discussed in 7.8. Nevertheless, as a further piece of evidence the following table indicates the change in the vested interests of the power group for the period after the land reform, which coincided with the beginning of the Third plan, as compared with the previous period. Thenceforward, the ratios of actual disbursements to the planned figure for the rural areas were greater than those of the total development expenditures over the First and the Second Development Plans,

1. See 5.4.2 and 5.4.6.

Table 7.16

Percentage ratio of actual to planned development expenditures

	<u>Plans</u>				
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>	<u>5th*</u>
Ag., Rural Dev. & Water	78.1	128.9	91.1	73.3	71.7
Ag. & Rural Dev.	n.a.	n.a.	78.3	64.8	61.9
Total Dev. Exp.	54.2	107.5	102	108.3	89.5

* Actual as against revised items.

Sources: 1st and 2nd plans based on S.B., Sanjesh Pishraft va Amalkarde Barnamah-e Dovom (Teh. 1959) p. 69, and Gozareshe Egraie Barnamah Dovom (Teh. 1964). Appen. 2 and 5; others as Table A.7.15.

i.e. for the period before the land reform. In other words, not only were the funds devoted to agriculture in the text of the plan relatively small but also they were partly spent in the other sectors in practice. The peasants did not have enough power to prevent that.

7.7 Wages and Salaries

In contrast with the masses of the people, the Government employees, a minority as a part of the state bureaucratic machine, derived satisfaction from oil revenues in the form of wages and salaries, and fringe benefits. They enjoyed an increasingly privileged share of the total income of the community. Before examining the evidence on this point, let us mention that because of lack of data we will confine ourselves to 'public services' for which data are derived from the national accounts. Accordingly they cover, by definition, only general administration; nationalised industries, e.g. oil, development projects and such services as banking, trade and transport

are excluded.¹

Departing from our classification of Government expenditures into productive and unproductive, we will take a look at two aspects of Government expenditures: 'employment effect' and 'income effect'. Through these 'effects' the Government plays a part of its role as the intermediary between the oil sector and the rest of the economy. The value added in public services is not only a part of public expenditures but it is also a part of the income of Government employees paid in the form of wages and salaries and of rent. We identified, in Table 7.17, the value added in public services with wages and salaries;² and non-oil GDP was taken as a rough indicator of personal income, the data for which are not available. However scanty the data, they suggest that generally speaking, while the employment effect of public services is ^{relatively} small, the minority of Government employees enjoy a privileged position in terms of income. Even if wages and salaries are taken as the only source of income of those employees, the table suggests that the distribution of income is unequal, slanted in their favour, in all the years considered. Obviously, there must be some Government employees who have other legal sources of income in addition to wages and salaries, let alone such illegal sources as corruption.

Since profit earners usually account for a significant portion of private income, the distribution of earnings within the rank of wage and salary earners is more relevant to our argument. Though reliable figures on aggregate wages and salaries are not available, the existing pieces of

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1. The share of 'public services' in total public employees is significant; their percentage share in total public employees in 1966, 1972 and 1976 was 71.5, 66.3 and 70.7 respectively (based on the same sources as Table 7.17).
 2. Rent constitutes a negligible portion of the value added in public services; for example, it was less than 1.8 per cent of the total in 1972 (based on M.A.I. Baravardē Arzeshe Afzudah, Masraf va Sarmayah Gazariē Doulat 1971-72 (unpub. mimeo. No. 17, 1974)).

Table 7.17

The relative importance of employment, and wages and salaries in the public services

	<u>1966</u>	<u>1972</u>	<u>1976</u>
1. No. of people employed in public services (1000)	474	563.5	1 200
2. Total no. of employed workforce (1000)	7 106	7 636*	8 788
3. Percentage ratio (1:2)	6.6	7.3	13.7
4. Percentage of public services to non-oil GDP	13.4	15.1	17.3

* Settled population.

Sources: Rows (1) and (2): 1966: M.A.I. Salnamah Amari 1973, pp. 52 and 77, based on 1966 census; 1972: M.A.I. & Ministry of Labour & Social Affairs: Natayege Amargirie Niruye Ensani 1972 [Manpower Sample Survey], Series No. 3579, p. 23; 1976: M.A.I. 5 per cent sample of 1976 National Census of Population & Housing, pp. 52, 55 and 82. Row 4: based on Table A.4.1 and A.4.3.

data for 1973 reveal that the Government employees as a whole accounted for about half, to be precise 47.5 per cent, of aggregate wages and salaries,¹ while their estimated share in total employment in the same year was about 9 per cent.² Note that if we include employees in oil, water and electricity and construction, for which data on wages were also available for that year, the distribution of wages and salaries remains still significantly unequal in favour of public employees. Correspondingly, their share in wages and salaries mounts to 63 per cent, and our estimation of their relative importance in total employment hardly reaches 15 per cent.³

1. The figures on wages and salaries were Rl. 149.9 b. and Rl. 317.4 b., respectively (based on M.A.I. Inputs Output Tables of the Economy of Iran in 1973, mimeo, 1976).

2. Estimated on the basis of the average annual growth rate of the relevant items over 1972-76, the data for which is reported in Table 7.17.

3. Based on M.A.I., op. cit. and the same sources as Table 7.17.

Unfortunately, deficiencies in data do not allow us to make a clear judgement about the changes in the relative position of the public employees in the community in terms of income distribution. Table 7.17 leads us to the conclusion that over 1966-72 the distribution of income changed in favour of the public employees. Their percentage share in income increased by 1.7 while their percentage share in employment rose by 0.7. For 1972-76, while their percentage share in income rose by 2.2, their share in employment rose by 6.4. These figures imply that over 1972-76 the average earnings of the public employees declined in relation to other groups in the country. Nevertheless, the worsening of their relative position may be statistical, rather than real, caused probably by changes in definition of employment in the 1976 census as compared with the sample survey of 1972. Such a guess is strengthened by the comparison of the rates of growth of the number of employees and the value added in public services in constant prices over the period concerned. Over 1972-76, the average annual growth rate of the former was 20.8 per cent, greater than that of the latter which was 14.1.¹ Bearing in mind that wages of the public employees rose faster than prices (see Table 7.18), such a relation between the two rates is impossible. In fact, it is very likely that in the 1976 census, unlike the 1972 survey, conscript soldiers are included in the data on public employees. When we exclude the estimated number of those soldiers, 235,000² from the 1976 figures, the share of public employees declines to 10.9 per cent from 13.7 per cent.

1. Based on Tables 7.17 and A.4.4.

2. Based on Keyhan International, 3 June 1977, total members of armed forces were 405,255 in 1976 (M.A.I. 5% sample of national census, 1976, p. 101). Hence it seems that the number of soldiers is underestimated.

At any rate we will show in the next chapter that the distribution of consumer expenditures has changed in favour of Government employees.

Table 7.18

Average annual growth rate of D.I.W.¹ of employees of public services and C.P.I.² before and after 1972

	<u>1966-72</u>	<u>1972-76</u>	<u>1974</u>
1. D.I.W.	3.4	19.4	35.1
2. C.P.I.	5.67	12.2	16.6
3. Ratio	0.59	1.59	2.12

-
- 1. Implicit Deflator Index of Wages and Salaries.
 - 2. Consumer Price Index.

Sources: Based on Tables A.4.1 - A.4.4 and A.4.8.

In addition to their wages and salaries,¹ the Government employees received some fringe benefits, particularly after 1973. Prior to that year some Government departments had provided their employees with bonuses in the form of goods, cheap housing, and health facilities. In 1973, the Government embarked on a wider welfare scheme confined to its own employees. The most important elements of that scheme were payments for health services and housing allowances. The former provide one example of privileges enjoyed only by the Government employees. They use the private health services and the Government pays for almost the entire costs.

1. These also include mazaya, or extra salaries.

7.8 Some Political Aspects of Government Expenditures

The pattern of Government expenditure is obviously an indicator of the Government's preference and real objectives. This raises a question. How was the Government preference determined in Iran? This is a subject in political science beyond the scope of this thesis and beyond the competence of this author. However, a few points are worth mentioning. First of all the Government's preference is determined by the system of political power. This in turn is influenced, among other things, by the economic structure of the economy. We have shown that the Government could rely on oil revenues, rather than non-oil taxes, for financing its expenditures.¹ In other words, it did not need to rely on the people for means of finance. Moreover, being an autocratic regime, its power was not based on their vote either. Hence, the Government was alienated from the people both in terms of finance and in terms of political power. It is generally known that since 1963 no single member of parliament has been really elected by the people. All were in fact appointed by the Shah with the help of his advisers. Consequently the public at large did not have any control on allocation of public funds to safeguard its interests.

Secondly, a strong and relatively large bureaucratic machine was required to implement the budget and to attain the Government's objectives. Hence, this machine had some executive and administrative power. It consisted of two elements: the law-making body; and the executive body. However, the former did not have any check on the latter; in fact it was a part of it. Government employees constituted about 63 per cent of the total number of MPs

1. See 7.2.

in the 24th¹ national assembly.² The national assembly was the only responsible body for approval of the state budget. Meanwhile the top people in the administration were mainly drawn from a small number of families who together with the royal family owned the bulk of the industrial estates. Out of 369 large establishments studied, about half, to be precise 48 per cent, were owned by only 54 families, and another quarter by 104 families.³ Obviously in such circumstances the bureaucratic machine was able to benefit from oil revenues and safeguard its own interests well, as long as it implemented the Government objectives. In contrast, its irresponsibility towards the public at large made it careless about safeguarding the national interest.

Thirdly, the rapid expansion of military expenditures took place for two purposes: internal oppression, and external commitments. The Shah came into power through a CIA coup d'état, which did not have mass support. Besides, his objective, and the state objective in general, was not to safeguard the interest of the public and fulfil their expectations. Instead oppressive measures were taken to suppress the masses of the people.

The external commitments were related to the role of the 'guardian' of the region played by the state since 1970. This role was imposed on the state by the USA in relation to the Nixon doctrine.⁴ The introduction of this doctrine

1. 1977-79.

2. The corresponding figure in the 21st assembly (1963-67) was 59 per cent; but it was 30 per cent in the 20th assembly (before 1963; based on M.A.I. Salnamah 1978, p. 696).

3. See Enayat. "A study on the structure of industrial ownership in Iran" (mimeo, 1975).

4. Following the defeat in Vietnam, the Nixon administration introduced a new plan for protection of America's interest in the Third World. Accordingly, those pro-western countries which could provide a large army, or could afford purchase of sophisticated weapons or a combination of both, were chosen to play the role of local gendarme. For details of Nixon's doctrine see A. Hartley, American Foreign Policy in the Nixon Era, in Adelphi papers, No. 110, pp. 16-8.

coincided with two events: withdrawal of the British army from the Persian Gulf; and the first rise in the price of oil, i.e. an increase in the financial capability of Iran. Iran was picked as a local gendarme in the Middle East; and the Shah who needed the USA's support because of lack of internal support, had to accept the job.

* * *

To conclude this chapter, it appears that in contrast with its stated objectives the Government's budget policies contributed both to the exacerbation of the obstacles to acceleration of growth in non-oil GDP and to the worsening of the distribution of the benefits of development. Generally speaking, oil revenues reduced the need for taxation of the well-to-do, and Iran featured a very low tax effort compared with other developing countries. Even when extra funds were required, the Government preferred deficit financing to taxes, facilitated by the 'creditworthiness' of oil in the international market. In particular, after the oil price rise of 1973 while an extremely large amount of oil revenues was injected into the economy, the Government lacked the 'will' to use taxes in order to restrict expansion of consumption and 'unproductive' expenditures in the private sector. In fact, the Government increased liquidity, in addition to oil revenues, by easing taxes and repayment of domestic debts in the early years of the plan. Later on it embarked on large budget deficits despite the appearance of physical obstacles to growth and of acceleration of inflation.

Moreover, the Government gave a marked priority to unproductive expenditures, particularly military expenditures, in the allocation of the budget, rather than to investment in productive capacity and expenditures on the backing-up services and socio-economic infrastructure necessary for

acceleration of growth of non-oil GDP. Similarly, the main beneficiaries of the Government expenditures were not the majority of the people. In spite of the common aspiration for better social services, the Government took oppressive measures through expansion of military expenditures. While the country occupied an extraordinary top position in terms of allocation of her income to military expenditures, it held an inferior rank in terms of allocation to social services. Those expenditures provided increasing linkages with foreign countries, as against the domestic economy; and they contributed to recycling of oil revenues in favour of those countries.

Yet again, the geographical distribution of Government expenditures and social services was unequal in favour of the urban areas, particularly large cities. The Government maintained an urban as well as a centralisation bias in its policies because the minority Governmental group, including the state bureaucratic machine, was located in the capital and large cities, but the peasants possessed little access to power and almost no control on the allocation of oil revenues. By contrast, relatively few Government employees were in a fortunate position to benefit also in the forms of wages and salaries, though we could not reach a firm conclusion about the changes in their status over time.

The Government policies had also a similar implication for acceleration of development and distribution of its benefits, through their impacts on the growth and structure of expenditures in the private sector. These issues will form the basis for the following chapter.

Chapter 8

Private Consumer Expenditures and their Distribution

8.1 Introduction

In addition to their direct impact, Government policies and activities also exacerbated the problems of acceleration of growth and worsened the distribution of benefits of development indirectly, through their effect on private expenditures. They resulted in the fast expansion of private consumption and demand for housing, accompanied by a rapid worsening of inequality in consumer expenditures. Rapid increase in the disposable income, stemming from injection of oil revenues into the economy and low taxes, combined with rapid urbanisation, the working of the 'demonstration effect' and the 'emulation effect', all contributed to acceleration of growth in private consumption. Since growth of income was mainly concentrated in the urban areas, the surplus of income over private consumption also accelerated; demand for housing, which is virtually a form of consumer durable, rocketed. As a result 'investment' in housing expanded. For the purpose of our argument, we may regard the sum of private consumption and ^{private} investment in housing as consumption in a broad sense undertaken by that sector. Obviously, the amount spent each year on investment in housing is not consumed entirely in that year, but it does not add to expansion of the production capacity either. We should emphasise that we are not necessarily implying that expansion of housing is not required. On the contrary, like other consumer expenditures it is quite essential to the extent that luxury housing is not expanded. Nevertheless, as with other consumption expenditures, it competes with investment outlays for expansion of production capacity in terms of non-financial resources, and exacerbates the problems of acceleration of development as stressed previously.

In theory, the rapid expansion of consumption, in the broad sense, in the private sector can be limited by an effective increase in taxes imposed on the well-to-do. In practice, nevertheless, the Government was unwilling

to expand taxes sufficiently, as expounded in Chapter 7. More importantly, we will reveal that even if it had done so, the consequent restriction would have been to a great extent compensated for by an expansion of unproductive expenditures by the Government. For the sake of comparison, and to stress only for that purpose, we call private consumption, in its broad sense, unproductive expenditures of that sector. It will be disclosed that the Government showed a greater tendency, as against the private sector, to allocate its additional income to unproductive expenditures.

It should be stressed at this stage that we do not mean that consumption is not needed(!), or that it is altogether unproductive. On the contrary, not only is consumption the ultimate aim of a society, but it is also an input of labour, as emphasised by some classical economists, to the extent that it nourishes the workforce. In this sense, it is in fact productive. Nevertheless, since we are interested in the analysis of the trade-off between expansion of present consumption and investment, particularly in terms of non-financial resources, we attempted the comparison between unproductive expenditures in the public sector and consumption, in its broad sense, in the private sector. As far as physical obstacles to development are concerned, they have similar effect.

To continue, the common masses of the people were not the main beneficiaries of the rapid expansion of consumer expenditures. The Government's urban and centralisation bias, explained in the previous chapter, contributed to widening regional inequality in the pattern of distribution of consumer expenditures against rural areas and small towns. Moreover, the size distribution of those expenditures within the urban areas where Government activities were concentrated, showed mounting inequality in favour of the 'Governmental class',¹

1. See 2.3.3, p.53 for the definition.

mainly the industrialists and Government employees. The latter enjoyed high wages and salaries, as shown in the preceding chapter. The former benefited from a rising share of profit in the factorial distribution of income resulting from the increase in the 'degree of monopoly' influenced by Government industrialisation policy and the failure of the Government to mitigate the worsening of income distribution.

The widening inequality between the rich and the masses contributed to the frustration of the latter and, accompanied with the economic failure of the Government and its shaky political foundation, speeded the collapse of the regime.

8.2 Private Consumption¹ and Housing

To accelerate investment, it is usually necessary to restrain private consumption, or its rate of growth, by taxation. However, this need not happen in an oil economy such as Iran. Here, oil revenues can contribute to rapid expansion of private consumption in two ways. On the one hand they reduce, as we explained in Chapter 7, the need for taxation; public investment is financed by oil revenues. On the other hand the injection of increasingly large amounts of oil revenues into the circular flow of income, unaccompanied by low (non-oil) taxes, makes for rapid expansion of disposable income and thus of personal consumption. We may consider 'private income', the sum of private consumption and private savings, as an indicator of disposable personal income. Obviously such an indicator overestimates disposable income because it includes retained corporate savings; but this is inevitable because of lack of necessary data. To continue, in fact, on the

1. Thenceforth in this chapter by private consumption we imply personal consumer expenditures.

basis of our estimate,¹ growth in private income in real terms accelerated from an average annual rate of 9.6 per cent between 1965 to 1972, to 15.3 per cent over the period of the Fifth plan.² Despite the fact that the estimated average propensity to consume declined from 90.3 in 1965 to 64.2 in 1977³, growth in private consumption accelerated remarkably from one plan to another not only in current prices but also in real terms (Table 8.1). To emphasise, the acceleration was unprecedented over the period of the Fifth plan, i.e. after the oil price rise of 1973.

Table 8.1

The average annual rate of growth of private consumption

	<u>Third plan</u>	<u>Fourth plan</u>	<u>Fifth plan</u>
Current prices	8.1	13.1	25.8
Constant prices	5.2	8.0	10.1

Sources: Tables A .4.6 - A.4.8.

One may argue that rapid expansion of private consumption is not undesirable when: financial resources are abundant, ability to invest is limited, and particularly when growth in consumption is associated with a growing margin of savings. We may challenge this argument on three main grounds. First of all, we have already shown that, despite availability of funds, expansion of consumer expenditures itself limits the ability to invest because it increases

1. See Appendix A.6, pp. LV-LX
2. Based on Table A.6.7.
3. See Ibid.

the pressure on scarce physical resources, i.e. non-traded goods, infrastructure, etc. Secondly, expansion of private consumption is not necessarily identical with proportional improvement in the welfare of the general populace. In fact, only a small minority may benefit, as we will show in section (3) where the issue will be taken up again. Here, we would like to elaborate the third point which is: the decline in the propensity to consume seems to be temporary, considering the consumption function of Iran; moreover, the fall was partially compensated for by the increase in the proportion of private income spent on 'investment' in housing. Let us explain each in turn.

Consumption function

Prima facie one may think that the decline in the propensity to consume is in line with the Keynes theory of consumption, i.e. the average propensity declines as the level of income increases. Such an assessment however seems rather simplistic. Similarly, as A. Brown (1978) suggested, other formulations of the consumption function, developed for advanced countries, are not suitable for the case of Iran for the period 1960's and 1970's (before the revolution). A special formulation is required in this case. Over that period two main characteristics distinguished, according to him, Iran from advanced countries. Those are rapid urbanisation, and a very high growth rate of income received by private household(s). The households became 'accustomed to expect a continued rate of growth in money income much higher than has been experienced by advanced countries'.¹ As a result, he maintains, a high aspiration for consumption standard has developed.² We may also add to that

1. Brown (1978), p. 2.

2. Op. cit.

list two more features of the Iranian society, which intensified that aspiration over the period concerned: a large bureaucratic body, and an extreme income inequality in favour of that body and other groups in the Governmental class. While the Governmental class tended to adopt the western way of life, advocated by the Government, the other urban groups were inclined to the 'emulation effect'. Large and conspicuous consumption was regarded as a demonstration of dignity particularly in the urban areas.

To continue, Brown formulated the following consumption function:

$$(1) \quad c_t = c_{t-1} (p_t/p_{t-1}) + b \left\{ y_t - c_{t-1} (p_t/p_{t-1}) \right\}, \text{ or}$$

$$(2) \quad c_t = (1-b) c_{t-1} p_t/p_{t-1} + b y_t$$

which implies that in each year (t), consumers spend an amount c_t , at current price p_t , 'to buy the same quantity of consumption goods as in the previous year, plus a proportion, $0 \leq b \leq 1$, of their current disposable income $[y_t]$ remaining'.¹ If all variables are put in constant prices the relevant equation will be:

$$(3) \quad c_t^* = (1-b) c_{t-1}^* + b y_t^*$$

An attribute of the model, directly relevant to our argument, is that for $0 < b < 1$ there will be no savings in the long-run; c_t^* tends to y_t^* , if income, in real terms, remains constant. In fact, the model suggests that under simplified conditions of steady state growth the value of the propensity to consume, $r_t = c_t/y_t = c_t^*/y_t^*$, is equal to $b(1+g)/(b+g)$. Accordingly, there

1. Ibid., p. 3. One advantage of this formulation over that of Duessenberry's Relative Income Hypothesis is that it relates current consumption directly to previous years' consumption.

is an inverse relationship between r and g , the rate of growth of income in real terms; if growth is accelerated r declines and vice-versa. For $g = 0$, r tends to 1, i.e. after a transitional period the whole income earned will be consumed.¹

Taking non-oil GDP as an indicator of personal disposable income, Brown estimated $b = 0.208$ for the 1959-76 period. The model indicated that, though the estimated equilibrium value of r declined from about 0.78 for the period before 1972 to about 0.64 for the following period, the reduction was attributable to an upward shift in the growth rates.² Otherwise, a fall in the growth rate will result in a rise in r . The series used by Brown showed a fall in the actual consumption-income ratio from 0.85 in 1959 to 0.82 in 1970, and to 0.64 in 1976.³ However, he also suggested that the sharp decline in the actual value of r_t after the rise in the price of oil may be partly attributed to the lag between consumption and income, due to rapidity of growth in income and to supply shortages, and partly to the nature of data used.⁴ The series of non-oil GDP employed as the indicator of the disposable income is inflated by the inclusion of private corporate retained profit and surplus of enterprises and corporations, and the correction of the series for these items would be greater proportionately after the rise in the price of oil than earlier. The surplus of the public enterprises expanded unprecedentedly over that period mainly owing to the expansion of profit of NIOC.

1. See Ibid., pp. 8-9 for details.

2. Ibid., p. 5.

3. Op. cit.

4. Op. cit.

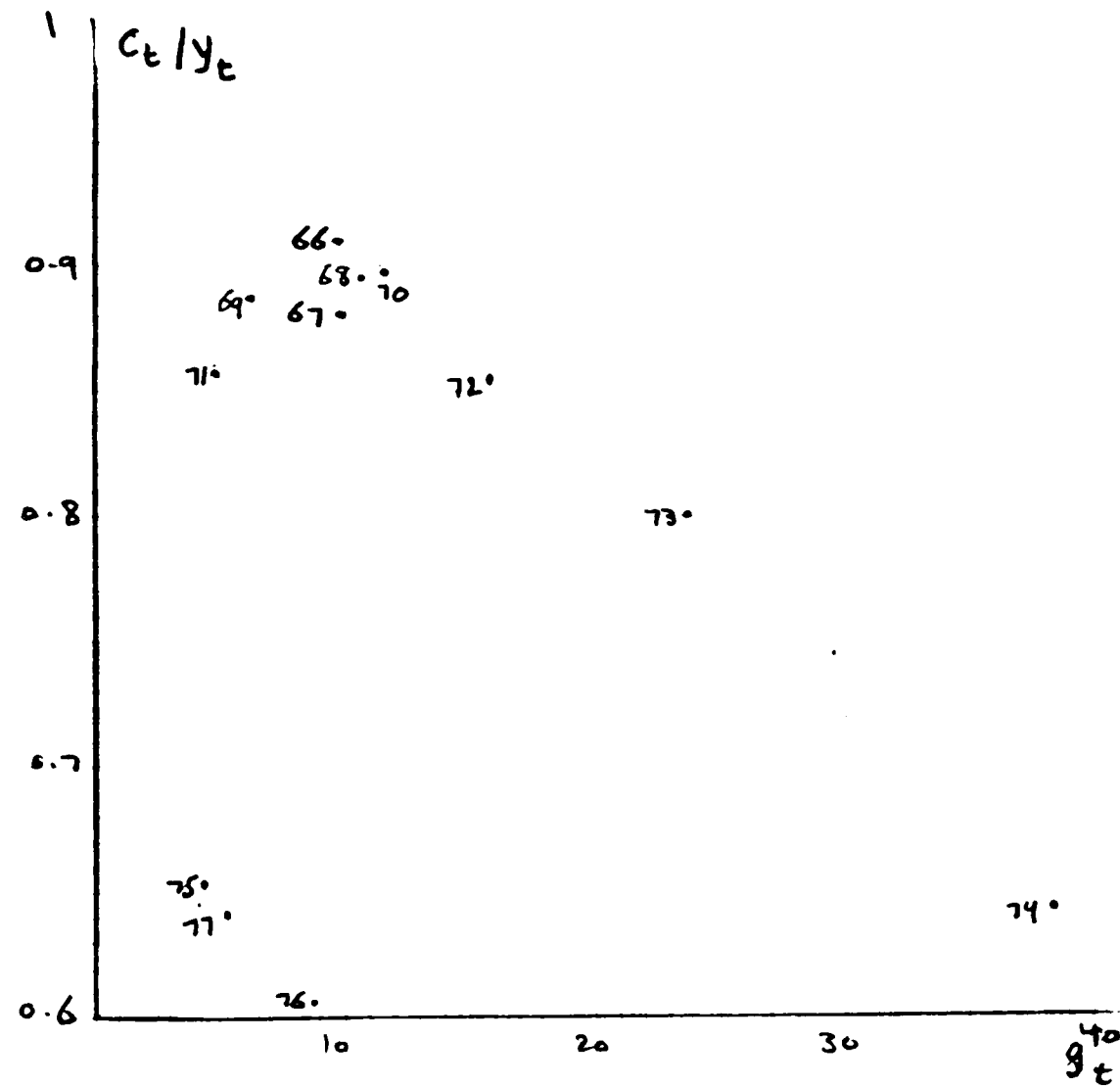


Chart 8.1.i The relation between g_t and r_t

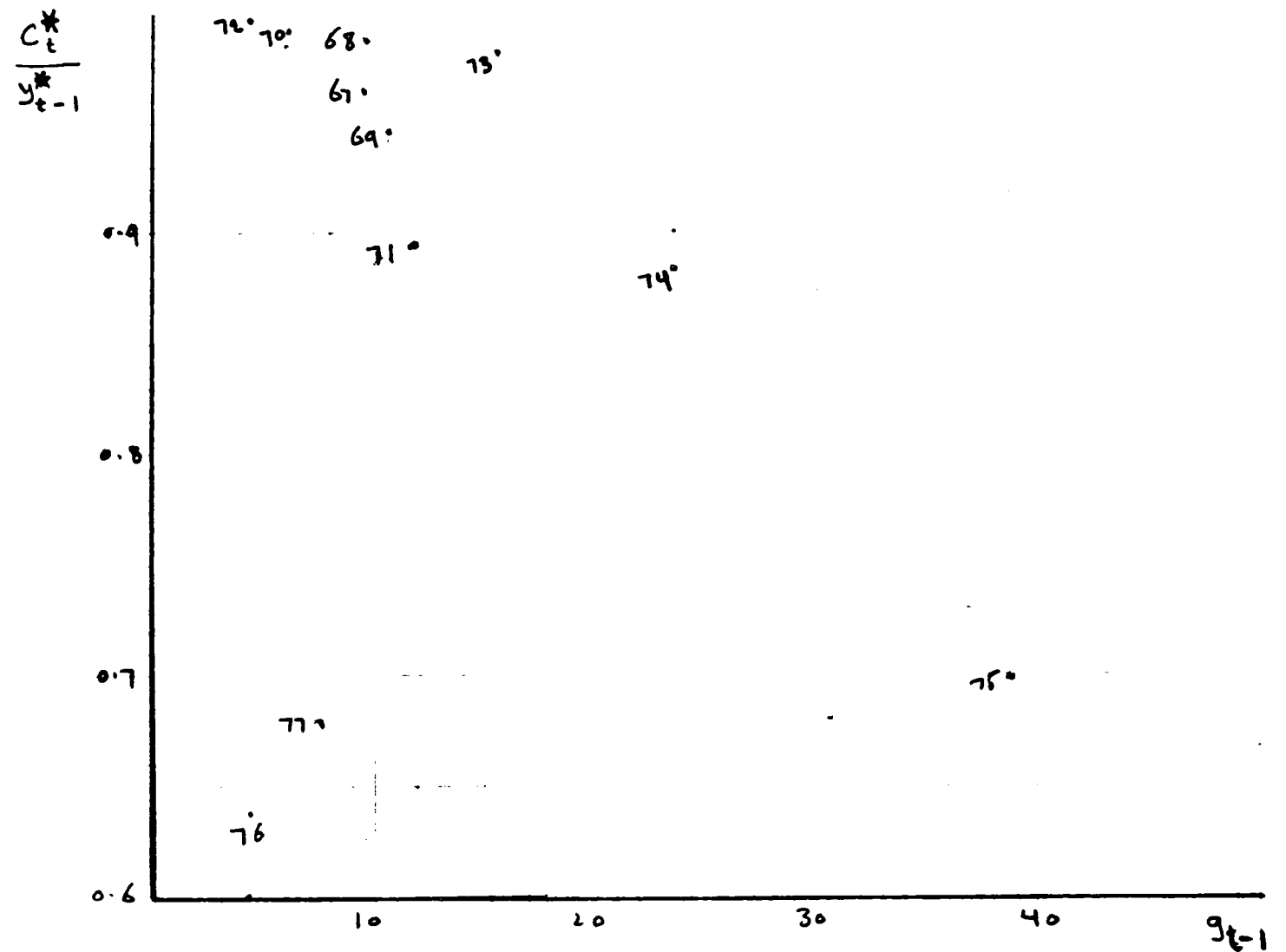


Chart 8.1.ii The relation between g_{t-1} and c_t^*/y_{t-1}^*

g = growth rate of income in real terms
 c = consumption
 y = income
 asterisk stands for real values

Sources: Our estimation based on Table A.6.7.

In order to exclude the surplus of the Government enterprise and corporation, we employed an alternative indicator of private income, i.e. the sum of private consumption and savings. For the latter, data were not available and we made a tedious effort to estimate the series for 1965-76 for which the necessary figures were published. Unfortunately, we did not reach a statistically meaningful estimate for b in equation (1); the number of observations were small and our series of both consumption and income were different from those of Brown. So far as the relations between propensity to consume (r_t) and the rate of growth in income are concerned, we decided to study changes in r_t for various value of g_t in Charts 8.1.i and 8.1.ii, case by case, as will be explained shortly. Let us first mention that our estimates of r_t turned out much larger than those of Brown, except for 1975 and 1976¹ for which data are preliminary, and our data on consumption are smaller than those used by him. That result is attributed to the exclusion of the surplus of public sector from the series of income. Let us add that, even in our calculations, r_t s are still underestimated for the inclusion of undistributed surplus of private companies.

Chart 8.1.i shows that when changes in the growth rate, g_t , are small, there is not much change in r_t and the direction of changes is indeterminate; but for large changes in g_t , variations in r_t are significant and the relation is negative. When we allowed for a lag between consumption and income, i.e. inserted y_{t-1} instead of y_t and g_{t-1} instead of g_t , the relations between the consumption-income ratio² and the growth rate of income appeared negative for almost all years before 1976 (Chart 8.1.ii). The inverse relation was noticed not only for those years in which the growth rate increased, but also for two

1. Compare the relevant figures in Table A.6.7.

2. To correct for the effect of price changes on the ratio both c and y are used, here, in real terms.

cases, 1970 and 1972, when the rate declined. For 1976 and 1977 the results conflicted with those of Chart 8.1.i, where the relation between r_t and g_t is negative.

At any rate, the number of observations for which the growth rate of income declined is small both in Brown's study and in our own, and the inverse relations between the ratio and ^{the rate of} growth of income is seen mostly in the cases where the growth rate rose. Assuming for the moment, however, that the previous regime would last and the consumers' behaviour would not change, the prediction of the model for the period over which growth in income may slacken has an important bearing on long-run development and diversification. We know that the rapid growth in non-oil GDP and disposable income has been due to the rapid growth in oil revenues, thus public expenditure. Oil revenues fail to expand eventually. If the non-oil sector is not expanded enough by then, that is, if the economy is not diversified enough to be self-sustained, a critical situation will arise. There will be a sort of vicious circle: to expand the non-oil sector the economy has to rely more and more on private savings. However, the private savings do not expand enough because of stagnant private income and the increase in the propensity to consume. In theory, there could be two remedies: either to cut public consumption, or to limit private consumption by taxation. In practice, neither policy would be easy to implement when the economy is stagnant. Generally speaking, limiting private consumption at a time of recession or stagnation is always more difficult than at a time of boom. If the Government does not control growth of private consumption while oil revenues expand rapidly, it may face a socio-economic crisis then. The situation, however, is analogous to a leaking roof: when it is possible to repair it there is no need for it; when it needs repairing, it is not possible to do so. To continue the metaphore, when oil

revenues are increasing fast there is no need for limiting private consumption; when there is a need, it is not easy to limit it.

In particular, one may claim that after the revolution the value of r_t may fall, or remain at its low level, because the behaviour of the consumers and their perception of the future might change. One may, however, equally claim that r_t may rise not only because of a possible slackening in the growth rate of income but also because of the redistribution of income and wealth which has been taking place since the revolution. Moreover, in the top expenditure group the ratio may rise because of sluggish growth, or even reduction of their income combined with the reluctance to modify consumption habits. In the bottom groups, frustration of the masses to emulate the consumption pattern of the well-to-do during the Shah's regime, and their expectation and aspiration further raised by the revolution, may contribute to the rise in the ratio.

'Investment' in housing

The propensity to consume, so far considered, does not take expenditures on construction of housing into account. This is because in the national accounting system, expenditures on house construction are regarded as investment; and only the rent paid, or the rental value of houses, in each year are included in consumer expenditures. Albeit, for the sake of our argument, payments for purchase of houses by households may be treated as expenditures on consumer durables, as explained in the introduction to this chapter.

The demand for housing tends to expand rapidly for the same reasons as in the case of private consumption already mentioned. That expansion may lead not only to 'investment in housing' but also to price rises. Taking the

series of private 'investment in construction'¹ as an indicator of purchase of houses, or 'investment' in housing, a comparison of Tables 8.2 and 8.1 indicates that allocation to housing has accelerated faster than private consumption expenditures, particularly over the Fifth plan; so has their price.

Table 8.2

The average annual rates of growth in private investment in construction

	<u>Third plan</u>	<u>Fourth plan</u>	<u>Fifth plan</u>
Constant prices	8.5	9	17.8
Current prices	10.9	15.7	44.9

Sources: Tables A.4.6, A.4.7 and A.4.9.

As a response to demand and because there was no price control on housing, in contrast to other activities, investment in housing became relatively attractive to private investors. The proportion of private income invested in housing increased sharply over that plan and compensated, partially, for the fall in the ratio of consumption expenditures to income as is shown in Table 8.3. None the less, it is still true, according to the same table, that the private sector saved a substantial proportion of its income, even after making allowance for investment in construction, over the period following the oil price rise of 1971 in contrast to the previous period.

1. About 10 to 15 per cent of private investment outlays on construction are usually used for commercial and industrial purposes. For example, in 1974 the relevant figure for the urban areas was 11.9 and in 1976 14.6 (based on C.B.I., 'Construction Activities of the Private Sector, in the Urban Areas, 1974', Table 8, and 1976, Table 8).

Table 8.3

Relative share of private consumption in broad sense in private income in selected years

		%	
	1963	1970	1977
Private consumption	90.3	89.9	64.2
Investment in housing	8.4	6.4	12.6
Total: private consumption in broad sense	99	96.3	76.7

Sources: Based on Tables A .6.7.

8.3 Unproductive Expenditures: Comparison of Private and Public Sector

We have already mentioned in Chapter 7 that one way to limit private consumption, in order to ease the bottlenecks to development, is to increase taxes. Let us here consider private consumption in its broad sense (c_p), defined in the previous section, and for simplicity of expression call it unproductive expenditures in that sector. Now, even if substantial increase in taxes were politically feasible, i.e. the Government intended to tax the rich heavily, it could mitigate the physical obstacles to development^{only} under two conditions. The necessary condition is that spending on productive expenditures,¹ out of Government revenues, would have to increase as the Government revenues increased. The sufficient condition is that the elasticity of unproductive expenditures, in response to income, in the Government sector would have to be smaller than that in the private sector.

1. For definition of productive and unproductive expenditures in the public sector, see 7.3.1.

With respect to the nature of the data for the private sector, it is not wise to rely on the quantitative estimate of such a delicate measure as elasticity. Instead, we have compared the relevant average propensities for the public and the private sector in Chart 8.2. For the public sector the chart depicts the ratios of unproductive expenditures¹ to the Central Government revenues for various years. For the private sector we have shown both c_b/y_t and $c_b/[(y_t + y_{t-1})/2]$, where y_t is our estimated private income. The latter ratio allows for the lag in allocation of income. It is clear from the chart, firstly, that for the public sector the ratio of unproductive expenditures to total income increased almost continuously over time² for the reasons indicated in 7.3. The rise in the ratio implies that the marginal propensities have been greater than average propensities, and the elasticities have been greater than unity. On the contrary, in the private sector the c_b/y_t ratio declined slowly before 1971 and considerably over the boom period, i.e. 1972-74, then fluctuated afterwards. As far as the boom period is concerned, substitution of $(y_t + y_{t-1})/2$ instead of y_t in fact extends the decline in the ratio to 1975. In other words, for 1972-75 the relevant elasticities were positive but less than unity,³ thus smaller than those of the public sector. As we explained before, a part of the decline in the ratio for the private sector over 1972-75 was due to unsatisfied demand resulting from the extraordinarily fast increase in income in this period. The reason the ratio rose in 1976-77 was perhaps a slower growth in income. However, whatever the reason, the conclusion would not change for that particular period, i.e. 1972-75, as follows. Over the

1. For the coverage see Ibid.

2. We already know that the productive expenditures have increased over time (see 7.3.2), i.e. the necessary condition is met.

3. The marginal propensity was smaller than the average propensity. Note also that for the period before 1972 the elasticities seem to have been greater for the public sector in almost all years. Hence even then taxation would result in additional expansion of unproductive expenditures at the aggregate level.

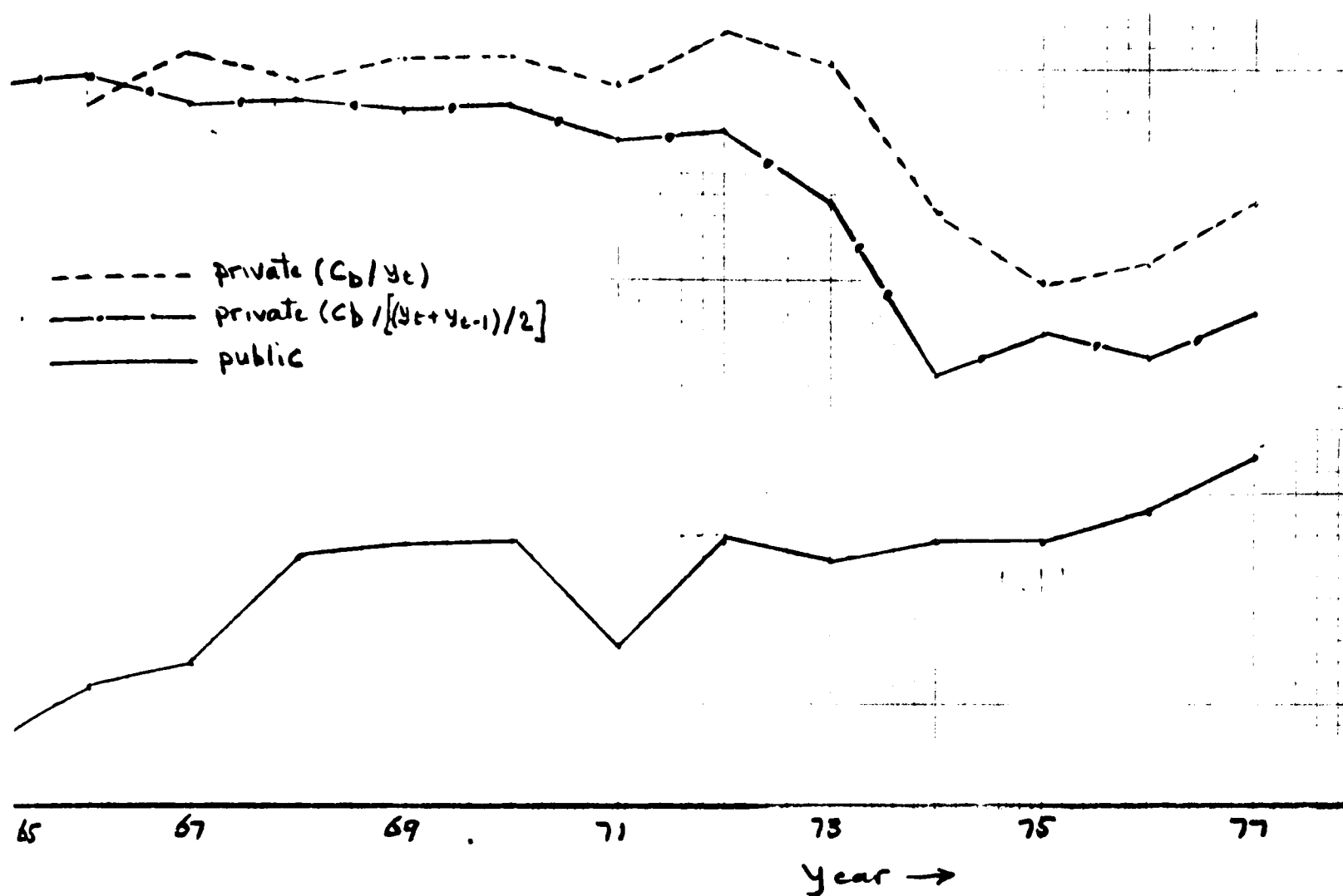


Chart 8.2 The ratio of unproductive expenditures in the public and private sectors.

Sources: Tables A .6.7, A.2.1 and A.2.2.

C_b = the sum of private consumption and private investments in construction.

Y_t = private income.

boom period, as before,¹ taxing away the private sector would not have much effect on unproductive expenditures in the aggregate level because of a relatively greater tendency to expand, out of additional income, unproductive expenditures in the public sector.

Such a tendency would significantly contribute to the growth of unproductive expenditures because of sharp escalation of income over the period concerned. In fact, Table 8.4 shows that the contribution of Government to growth in unproductive expenditures has been increasingly significant from one plan to another as total domestic expenditures were accelerated. It also shows that for the Government, the growth in unproductive expenditures was significantly larger than that for the private sector, particularly over the Fifth plan.

Table 8.4

Average annual growth rate of unproductive expenditures in current terms

	<u>Third plan</u>	<u>Fourth plan</u>	<u>Fifth plan</u>
	<u>1962-67</u>	<u>1968-72</u>	<u>1973-77</u>
1. Central Government	13.1	29	50.3
2. Private	8.3	13.1	27.9
3. Total	8.8	15.3	33.2
Share of Gov. in total (%)	10.7	15.2	32.9
4. (Contribution of Government) ¹	(1.4)	(4.4)	(16.5)

1. The contribution of Government is equal to line (1) multiplied by the average share of the Government in unproductive expenditures for the period of the relevant plan.

Sources: Tables A.6.7 and A.2.1.

1. The only exception is perhaps 1971.

In brief, over the period concerned, without taxing the private sector other attempts, except for a price increase which is undesirable, to limit unproductive expenditures in the private sector would have been very difficult. Nevertheless, a decrease in those expenditures, resulting from taxation, would have been overcompensated by the corresponding expansion of unproductive expenditures in the public sector. In essence, the acceleration of growth of unproductive expenditures would have been inevitable over the period concerned given the socio-political conditions, the Government expenditure policies as well as depletion strategy. This however should not mean that fast acceleration of unproductive expenditures would have been inevitable under other socio-political conditions. With different vested interests and institutional set-up there could have been a different set of policies regarding taxes, expenditures, depletion and investment abroad as mentioned in Chapter 7.

8.4 Distribution of Private Consumer Expenditures

If the beneficiary of growth in private consumption is not the majority of the people, such growth will have two effects as regards objectives of development and diversification: an immediate effect, and a long-run effect. The immediate effect is clear: improvement in the well-being of the majority is disregarded in favour of a minority. The general masses may live a poor life despite rapid acceleration of consumption. Its long-run effect is the influence on the pattern of diversification. Maldistribution of private consumption outlays tends to affect the pattern of demand in favour of non-necessities. The pattern of production and diversification is affected correspondingly. Though both aspects are important, we will confine ourselves to the immediate effect.

It is sometimes said that an increase in inequality in the distribution of income, and thus of consumption, is associated with growth in the early stages of development, before the distribution tends to more equality in advanced stages.¹ Further, it is widely agreed that redistribution of income in favour of the deprived strata of the community is a Government responsibility. Studying 44 developing countries, I. Adelman and C.T. Morris (1971) concluded that mineral exporting countries were among the worst in terms of inequality. The authors failed, however, to consider the strong possibility that the inequality in these countries may be explained, to a great extent, by the policies of the Government which ^{is} highly involved in the economy.²

For the period before the price rise of 1973 a few attempts had been made to measure inequality in Iran.³ A comparative study for 1971, undertaken by a World Bank Mission, concluded that "it is probably true to state ... that the coefficient of income distribution in Iran is among the highest in the world".⁴ Moreover, a common conclusion of the studies so far undertaken is that the distribution of private consumption has been worsening within the urban areas; while for the rural areas there has been no significant change. None the less, all of the studies concerned here, to my knowledge, failed to recognise that the Government has been responsible for the relative increase in the disparity.

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1. Kuznetz (1955); for a survey of literature see W.R. Cline (1975).
 2. On the one hand they conclude that countries with abundant natural resources carry the worst degree of inequality: on the other hand they generalise the role of the Government in decreasing inequality and maintain that 'the greater the Government activities, the more even the pattern of distribution'. When one looks at their list of countries with abundant natural resources, one will realise that all of them figure among those with high Government activities, mainly oil exporting countries. The countries concerned are as follows: Iraq, Libya, Trinidad and Tobago, Venezuela, Bolivia, Chile, Peru, Zambia.
 3. Pesaran (1973b); Mehran (1975); Oshima (1972); I.B.R.D. (1973).
 4. I.B.R.D., op. cit., pp. 2-4.

We will argue here that the Government's activities and policies were the main cause of inequality in Iran, though some other factors may have contributed as well. It will be briefly shown that the bias against rural areas tends to increase urban-rural inequality; and the centralisation bias is liable to widen inequality within the urban areas. Focussing on recent years, particularly on the period after the price rise of oil for which no study is available, we will show that within the urban areas, where Government activities were concentrated, the size distribution of consumer expenditure has become severely unequal. Two main causes of concentration of income will be explained to be: maldistribution of income in favour of the Government employees who enjoy high salaries; and change in the factorial distribution of income against workers within the private sector, together with the failure of the Government to mitigate the disparity. In the case of the private sector we will use the Kalecki-Riach hypothesis on the increase in the 'degree of monopoly' over the process of development, as will be explained in due course. To our knowledge no study has ever applied such an approach in the case of Iran, and perhaps other developing countries, where rapid industrialisation and modernisation have been accompanied with concentration of ownership of industrial estates.

Urban-rural distribution

There have been mounting biases against rural areas in the development strategies pursued by the Government: bias in allocation of Government expenditures; and biases in economic policies, e.g. credit policies and price policy as shown previously.¹ These biases are bound to lead to relatively slow growth of output in the rural areas and to worsening of urban-rural inequality. The data on urban and rural consumption are poor²,

1. See 5.4 and 7.6.

2. In fact, for 1963 the data are not more than a guess estimate.

and they might over-estimate the disparity as we shortly explain. Nevertheless, since we are interested in changes in the pattern of disparity over time, they will provide us with some guidelines. Based on the national accounts figures, Table 8.5 indicates that the urban-rural gap in per capita consumption has widened sharply over time, particularly after the rise in the price of oil when the bias against rural areas intensified.¹ The same table also indicates that the increase in inequality in consumption is in line with the decline in the value added per head of population in agriculture relative to other sectors of the economy. Let us repeat that we attributed the slow growth of this sector mainly to lack of attention by the Government.

Table 8.5

Per capita consumption and production in the urban and rural areas (Rl.)

	<u>1963</u>	<u>1970</u>	<u>1976</u>
<u>Consumption</u>			
1. Urban	17264.2	31461.6	88187.7
2. Rural	8028.65	9820.9	18236.1
3. Ratio (1:2)	2.15	3.20	4.84
<u>Production</u>			
5. Agriculture	6589	9559	27126.3
6. Other non-oil sectors	23938	40799.5	154365
7. Ratio (6:5)	3.63	4.27	5.69

Sources: Tables A.4.1 and A.4.3.

1. The M.A.I. data show a smaller disparity; for example the relevant ratio for 1975 according to that source is 2.1 as against 3.3 indicated by the data provided by B.M.I. (Based on Table A.6.2) and M.A.I., Family Budget Survey of the Rural areas for 1975.

Some other factors such as differences in the type of job, degree of literacy, etc. may have contributed to urban-rural disparity. However, these differences also emerged as a result of the Government's activities and policies, in one way or another.

We must emphasise again that Table 8.5 is designed to show tendencies in relative change in the statistical figures of urban-rural disparity. Otherwise, it exaggerates the disparity in any year concerned, and one could be misled by the data and conclude that the urban dwellers as a whole are better off than the rural citizens. The table exaggerates the disparity for two main reasons. Firstly, the figures show the relative size of the average expenditures of the two areas; they do not necessarily mean that expenditures of every rural family are less than those of every urban family, or vice versa. In fact, the disparity in the consumer expenditures in the bottom groups of the two areas is negligible. For example, in 1975, the ratio of per capita expenditures of the urban areas to that of the rural areas for the two bottom expenditure groups was 1.12 as against 2.1 for all expenditure groups.¹ As will be suggested later on in this section, the disparity in the average figures is caused basically by the heavy concentration of expenditure in the top group within the urban areas.

Secondly, the disparity in consumer expenditures tends to over-estimate the disparity in consumption in physical terms. This is because of the differences in the set of prices used. For example, for the rural areas the set of prices adopted for foods are basically farmgate prices, which are less than retail urban prices. Similarly, housing rents paid, or the imputed cost where the dwellers own their house, are, relatively speaking, smaller in the

1. Based on Table A.6.2 and ibid. The discrepancy between the average ratio and that of Table 8.5 is caused by the difference in source. The Central Bank data does not cover rural areas.

rural areas even for the same quality of accommodation.¹ It is not easy to measure the disparity in physical terms for all items because of problems related to the definition of units for each consumption item. According to one study, however, the nutritional poverty, defined in terms of the number of calories consumed, was more widespread in the urban, as compared with the rural areas.² This has occurred even despite a more rapid growth of economic activities and Government involvement in those areas as compared with the rural ones.

The centralisation bias, in allocation of Government expenditures and in other policies,³ tends to contribute to regional inequality. The ratio of the average consumption, per family, for the urban areas of the central province to that of the whole urban areas was 1.33 in 1972, and 1.39 in 1973⁴ for which data are published. Moreover, on the basis of the same sources in 1972, over a third (35 per cent) of the families in the top two expenditure strata in the family budget survey, who accounted for about 7 per cent of the sample and over 25 per cent of total expenditures, were citizens of the central province.⁵ Secondly, as is shown in Table 8.6, the proportion of the central province in private consumption is in line with the proportion of public consumption, capital formation and non-oil income, particularly in the urban areas. All these are directly, or indirectly, affected by Government's decisions.

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1. On the other hand the price of industrial products, imported from urban areas, may be greater than that in urban areas.
 2. H. Azimi, a thesis in progress, in Linacre College, Oxford, on 'Aspects of Income Distribution in Iran'.
 3. See 7.6.
 4. Based on M.A.I. Family Budget Survey 1972 and 1973, the sections on regional distribution: 1973 is the last year for which the data on regional distribution are published.
 5. Ibid (1972), p. 80.

Table 8.6

The percentage share of the central province¹ in various aggregate variables (1972)

<u>Variables</u>	<u>%</u>	<u>Variables</u>	<u>%</u>
Private consumption	34.6	Public consumption	52.3
(urban areas)	56.4	Capital formation	52.1
Population	19.1	Non-oil GDP	42.9
(urban areas)	34.2	(urban industries)	67

1. Includes Semnan and Zanjan, except for urban industries.
Sources: P.B.O., Regional Planning Department, except for urban industries which are based on 'M.I.M., Industrial Stat. for 1972', pp. 1, 8.

The size distribution of family expenditures within urban areas, 1972-75

Since the Government activities are concentrated in the urban areas, let us examine the size distribution of consumer expenditures within those areas. For the period before the oil price rise the existing literature indicates that inequality had widened as mentioned earlier. For the following period we have compared the size distribution of family expenditures, on the basis of M.A.I. data, for 1972 and 1975 in Figure 8.3, and used the Lorenz curves and the Gini coefficients as indicators of disparity.¹ They suggest that the increase in inequality was shocking. The Gini coefficient skyrocketed from around 0.39 in 1972 to over 0.48 in 1975 in only three years. The family

1. The diameter in the Lorenz curve shows the line of perfect equality. The greater the distance between the curve and the line, the worse the inequality. The Gini coefficient is a measure of concentration; it varies from value of 0 to 1; here the greater the coefficient, the worse the distribution of consumption expenditures. In geometrical terms the Gini coefficient is the ratio of the area between the diameter and the Lorenz curve to the area under the diameter. We fitted the curves by hand and measured the relevant areas for calculation of the Gini coefficients accordingly.

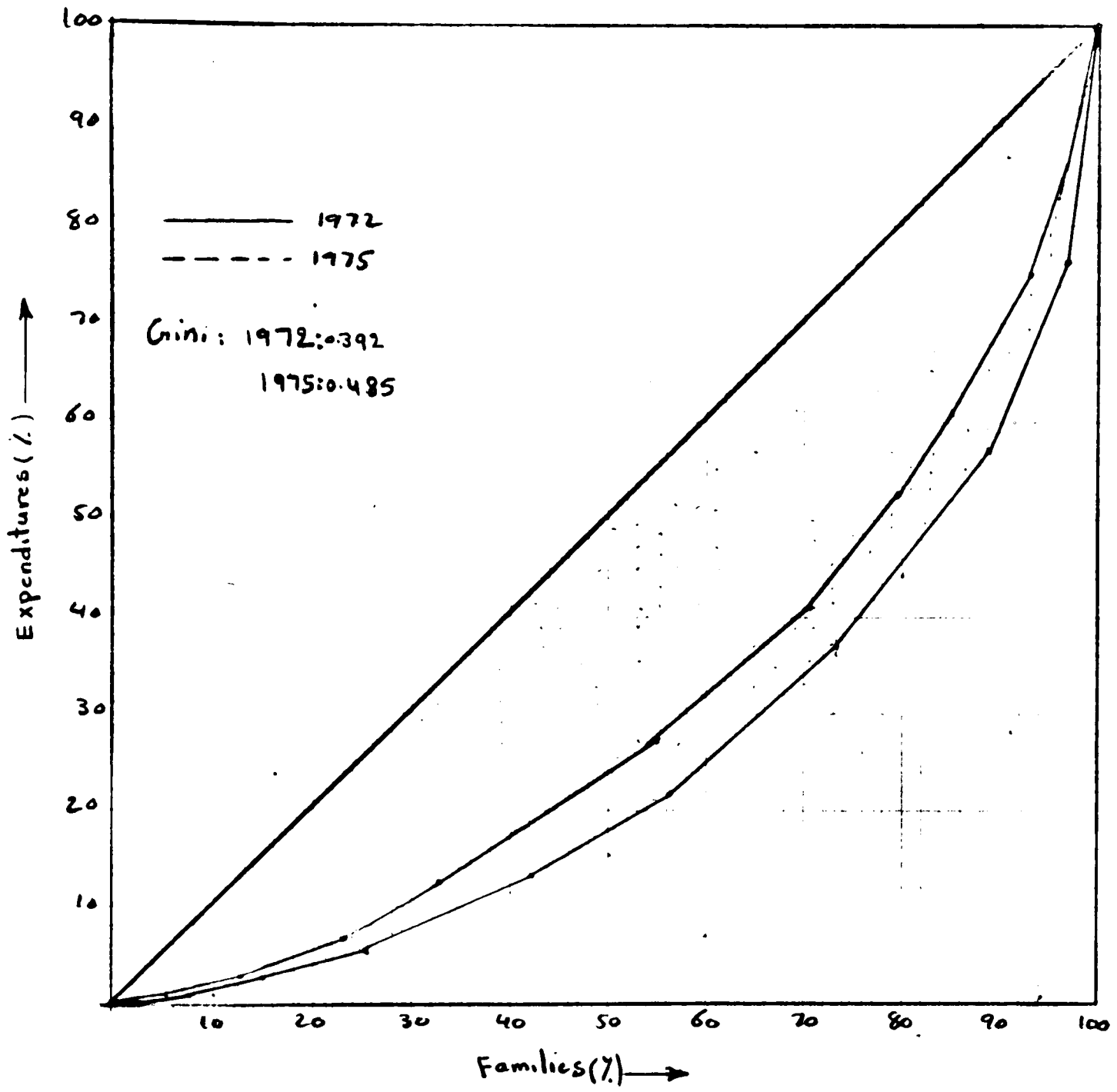


Chart 8.3 The size distribution of family expenditures in urban areas.

Sources: Based on Table A.6.1 and A.6.2.

budget data are very poor, being based on a small sample survey of about 15,000 for 1972 and 8,000 for 1975; and the expenditure stratification for 1975 is wider as compared with 1972.¹ For example, in the latter year the last expenditure group consists of those with monthly expenditures of Rl. 30,000 and more, and in the former year Rl. 100,000 and more. Nevertheless, as far as changes in the inequality are concerned, two points are worth mentioning. Firstly, the change in the Gini coefficient is not comparable with the earlier period of 1969-71 estimated on the basis of the same source; the estimates of the Gini coefficient hardly changed over 1969-71.² Secondly, the change in the stratification is very likely to have caused a reduction in the concentration ratio because a wider range of expenditures in the top group in 1972 increases the ratio for that year.

As a matter of fact, a shattering feature of the pattern of the distribution in the urban areas is the increasing concentration of expenditures in the hands of a minority in the top stratum. A significant gap emerged between the bottom 50 per cent of the families on the one hand and the top 10 per cent on the other; the relative position of the middle 40 per cent has scarcely altered. The percentage share of the bottom groups concerned dropped from 24 to 15.7; and that of the top group jumped up from about 30 to over 41. To reveal the increase in concentration further, in 1972 the share of the top 3 per cent of families, in the sample survey, in total expenditures was equal to that of the bottom 35 per cent of the families; in 1975 it exceeded that of the bottom 50 per cent!³

1. Compare Tables A .6.1 and A .6.2.

2. See Mehran (1975b), p. 10.

3. Based on Tables A.6.1 and A.6.2.

Some causes of increase inequality in the urban areas

The causes of increase in concentration of expenditure in the hands of the top minority of urban dwellers require particular attention. We may relate the distribution of expenditures to the distribution of income to pursue that investigation. Though many factors may have contributed to such concentration, we will consider below two which are more relevant to the case of Iran, a country featured by rapid expansion of the Governmental sector and fast industrialisation. One factor is the increase in concentration of income in the hands of Government employees as against other workers; the other is rapid change in the factorial distribution of income in the industrial sector and other activities in favour of gross profit, and against wages and salaries, along with the failure of the Government to mitigate such a trend. Regarding the industrial sectors, assuming that firms usually operate below or at full "practical capacity", Kalecki postulated, a long time ago, that the factorial distribution of income changes in favour of profits in the course of industrialisation.¹ This is, he maintained, because the ratio of gross profit to unit prime costs, wages plus material costs,² rises in the course of industrialisation. This in turn, he adds, is due to an increase in the degree of concentration, i.e. 'the degree of monopoly power'. A. Riach incorporated also the effect, on the ratio, of a change in the capital-output ratio.³ In oil economies this latter ratio rises very rapidly over time.^{4,5}

1. See Kalecki (1971), pp. 156-68 and (1955), p. 50.

2. The difference between price and the price costs is called the price 'mark-up' in modern literature.

3. P.A. Riach (1971), particularly pp. 55-7.

4. See D. Seers (1969).

5. Perhaps one could also add that in an oil economy, because of appearance of the demand pressure in the commodity and factor market, some monopoly power arises from short-run 'inelastic supply curve'. In such a situation the workers in the industry also carry 'economic rent'; their wages go up. However, the distribution of rents among workers and employers depends on their relative power.

Comprehensive data necessary for testing the above hypothesis are not available; and those available are not particularly reliable. For example, the figures on sales and profits are usually understated, relative to wages, by the companies, for the purposes of tax evasion. Nevertheless, we will shed some light on the issue with the help of the existing data. Before proceeding, let us make sure that the distribution of expenditures among various groups fits such postulation.

The existing pieces of data, however unreliable they may be, suggest that the concentration in distribution of consumption expenditure is in line with the above hypothesis.

Table 8.7

Distribution of consumption expenditures in the urban areas according to the job of the head of the family (1972)

	<u>Population</u>	<u>Consumption</u>
	%	%
Employers	3.8	6.6
Self-employed	31.8	32.9
Workers in the private sector	31.5	24.9
Government employees	19.9	26.1
Others	<u>13.3</u>	<u>13.5</u>
Total	100	100

Sources: Table A.6.3.

If we consider the figures on employers as a rough indicator of profit earners, Table 8.7 indicates that the distribution of expenditure was, in 1972, concentrated in favour of employers and Government employees. The existing evidence on the factorial distribution of non-oil income also follows the same pattern.

In 1973, for the non-oil sector¹ wages and salaries constituted about 25 per cent of the value added, the rest being collected by profit earners and other agents of production, i.e. recipients of interest and rent ; and Government employees accounted for over 47 per cent of wages and salaries.²

The distribution of expenditures within wage and salary earners changed further in favour of Government employees in 1975, as compared with 1972, as shown in Table 8.8. Note that according to the same table, in 1975 average expenditure for the Government employees is, unlike 1972, greater than that of all other groups. If the data are correct this implies that Government employees not only constituted the main expenditure group, but they have expanded their consumption much faster than other groups.

Table 8.8

Comparison of average expenditures of urban families according to the job of the head of the family (1972, 1975)

	<u>1972</u>		<u>1975</u>	
	<u>Rl.</u>	<u>ratio to av. for private workers</u>	<u>Rl.</u>	<u>ratio to av. for private workers</u>
Employers	19353	2.23	39919	1.8
Self-employed	11548	1.33	24433	1.1
Workers in the private sector	8668	1	22349	1
Government employees	14423	1.66	43497	1.94
Others	11122	1.28	21973	0.98

Sources: As Table 8.7

1. Refineries are included, but gas is excluded.

footnote(2)

2. For the source see p.245/; the figures on profits are also based on the same source; the figures for non-wage earners includes income of self-employed persons.

Table 8.8 suggests that the gap in average expenditures for workers and employers narrowed down. However, this should not necessarily imply that the relative position of workers against profit earners improved in general. First of all, the data on 'employers' in the table are likely to under-estimate consumption of profit earners, because they exclude those owners who are not involved in the management of their establishment. Secondly, figures carry the problems of a simple average; the change could be due to worsening of income distribution within the employees in favour of the salary earners and skilled labour. Unfortunately we do not have the necessary data for the relevant period to test that. After all, there is some evidence that the factorial distribution of income in the private sector swung in favour of the gross profit, particularly after the price rise of 1973. This is in fact the second element of our hypothesis to which we now turn.

Factorial distribution of income

Let us start with the industrial sector. The M.I.M.¹ data on urban industries (non-oil) show that the relative share of gross profit in value added increased over time. It rose from 73.1 per cent in 1967 to 75.4 per cent in 1973; the share of wages declined correspondingly.² Another source of data, M.A.I., for large urban industrial plants, excluding carpet weaving, indicates that the share of gross profit in value added jumped sharply after the rise in the price of oil; it shot up from 75.3 per cent in 1971 to 84.6 in 1976.

1. Ministry of Industry and Mining.

2. See Table A.7.4.

Did changes in the price mark-up contribute to the rise in the relative size of gross profit, as hypothesised earlier? The answer is probably yes. We analyse the M.I.M. data for 1967-73 and M.A.I. data for 1971-76 separately. In the first place, according to the M.I.M. data concentration did increase in the urban industries, as shown in Table 8.9. In effect, while the relative share of large industries in the total number of plants hardly altered, their share in output increased noticeably, particularly when carpet weaving and textiles¹ were excluded.

Table 8.9

Indicators of concentration and price mark-up in the urban industries

	<u>1967</u>	<u>1973</u>
Share of large plants ¹ in no.	2.8	3
(carpet and textiles excluded)	(2.1)	(2.2)
Share of large plants in output	67.2	71.3
(carpet and textiles excluded)	(54.0)	(59.7)
Gross profit ² as percentage of prime cost	38.9	40
Small	46.4	43.6
Large	35.6	38.7
Large excluding carpets and textiles	36.1	42.1

1. Plants with more than 10 labour; small plants are those with less than 10 labour.

2. Does not include share of labour in net profit.

Sources: Based on Table A.7.4.

1. These industries are handicrafts, mostly carpet weavings, of relatively small size; and together they accounted for about 25 per cent of large industries in 1973, in terms of number of plants and about 17 per cent in terms of output.

Secondly, the figures on the relative size of gross profit to prime costs, in Table 8.9 lead us, at first sight, to conflicting results. The comparison of the data for 1967 and 1973 confirms our hypothesis; but the cross comparison of the data on small and large plants within the same year rejects the hypothesis. The ratio of gross profit to prime cost seems to have increased over time; and the large plants, particularly when carpet weaving and textiles are excluded, contributed to the change. Such a contribution is in fact in line with the size of plants, within each size group, over time, as is indicated in the following table.

Table 8.10

The size of urban industrial plants in terms of number of workers

	<u>1967</u>	<u>1973</u>
All plants:	4.2	4.7
small	2.91	2.96
large	49.4	59.8
Large excluding carpet and textiles	38.8	55.1

Sources: As Table 8.9.

Within each year recorded in Table 8.9 the ratio of profit to prime cost is larger for the small plants as compared with large. This should not necessarily imply however that the profit margin is greater for the small than the large establishments, for the following reasons. Firstly, the small plants include many family units and petty workshops with self-employed manpower. In these plants no distinction is made between wages and profits, because no wage is paid. As a result, the reward of labour is not included in the prime costs; it is included in the gross profit; thereby the ratio of gross profit to prime

costs is inflated. As a matter of fact, the plants with non-wage labour constituted a substantial proportion of the small plants as implied in the following table. Accordingly, while the share of non-wage labour in total

Table 8.11

Percentage share of non-wage and salary earners in total work force

	<u>1967</u>	<u>1973</u>
Small plants	44.7	42
Large plants	3.4	3.9

Sources: As Table 8.10.

workforce was around half in the small plants, it was negligible for large units. Note that the decrease in the ratio of gross profit to prime costs, for the small plants, in 1973, as compared with 1967 (Table 8.9), can be attributed to the increase in the share of wage-earners in the workforce (Table 8.11).

Secondly, the data on the large plants are distorted by the inclusion of Government plants which usually run at a loss because of over-manning and irresponsible management. Besides this, their pricing policy is different from that of the private sector. Thirdly, the disparity could be due to operating under full capacity as is more to be expected in the case of large plants. Above all, the phenomenon may be statistical rather than real; one would suppose that the owners of large plants have a greater incentive than those of small ones to under-declare profits, relative to costs, for the purposes of tax evasion. The former group are subject, according to the tax law, to higher tax rates because of their larger income.

Changes in the capital-output ratio probably played a role in the increase in the gross profit-prime costs ratio as well. Though the data are poor, there are some indications that the ratio has risen over time. The data available for the whole industrial sector of the country, except NIOC, foreign oil companies and electricity, suggest that the ratio of fixed capital to value added rose from 0.98 in 1967 continuously to 1.45 in 1973 and reached, despite slight fluctuation in the interval, to 1.99 in 1977.¹

The M.A.I. data for 1971-76 also suggest that the change in the factorial distribution of income in favour of gross profit was the result of changes in

Table 8.12

Relative size of profit to prime cost in large urban plants

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1976</u>
Gross profit ¹	34.3	36.7	40.4	58.1
Net profit ²	(24.7)	(28.3)	(32.4)	n.a.

1. Value added minus wages.

2. Excludes depreciation.

Sources: Table A.7.5

the gross profit in relation to prime costs. The data show furthermore that depreciation does not seem to have been responsible for the rise in the gross profit prime cost value.

It is not possible to separate the effects, on the gross profit-prime costs ratio, of concentration and change in the capital-output ratio and inflation. Yet, the sharp increase in the ratio after 1973 and 1976, as

1. Based on Table A.7.6.

compared with the increase between 1971-73, implies that inflation must have contributed after 1973. Note that the rate of inflation was much greater after 1973 as against the previous period.¹

For 'other activities', preliminary estimates of value added through income approach for 1971 and 1974 suggest that the shift in favour of profit, both gross and net, is more drastic than that in the industrial sector. This is shown in the following table. The shift may be attributed to two factors: increased capacity utilisation, i.e. increase in labour productivity; and increase in prices due to the demand-supply gap.

Table 8.13

The share of gross profit in value added in various activities¹

	<u>1971</u>	<u>1974</u>
Banking, brokerages and insurance	60.2 (52.2)	84.3 (81.9)
Domestic trade ²	98.8 (92.5)	95.8 (92.3)
Private services	n.a.	69.1 ³ (67.5)
Private construction	53.4	59.2
Mining	n.a.	65.1 ³

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- 1. Figures in brackets are net profits after allowing for all costs.
 - 2. Include depreciation.
 - 3. 1973.

Sources: Author's calculations based on M.A.I., "Baravardē Moghadamate Hesabhayē Meli 1971-74" [preliminary estimates of national income], unpub. mimeo, pp. 37-45, 73-77, 111-23 and 155-60.

Unfortunately, we are not able to substantiate that proposition because of lack of data. The only clue is the following: the fact that the distribution did

1. See Tables 1.1 and 1.5.

not alter in favour of profit in the Domestic Trade, unlike other activities, can be attributed to the nature of price control by the Government. Basically, the retailers suffered from the price control rather than the producers; there was no serious control at the wholesale level or at the factory gate.

Considering the fact that the Government failed to mitigate the rise in the factorial concentration of income by taxes or other means, it is not unlikely that the distribution of consumer expenditures swung against the private workers, as compared with employers, even though the data, reported earlier, do not confirm this.

* * *

To summarise this chapter, Government policies seem to be, to a large extent, responsible for the unprecedented expansion of consumption and 'investment in housing', which contributed to the physical obstacles to growth, and for extreme maldistribution of benefits of growth, which helped the collapse of the regime. We have shown that rapid increase in income, unaccompanied by a noticeable rise in taxes, caused sharp escalation of both private consumer expenditures and demand for housing over the period of the Fifth plan. Though the propensity to consume fell considerably after the oil price rise of 1973-74, the fall can be attributed to the exceptional growth in income; and it was argued that slackening of growth would lead to a rise in the ratio if the socio-political conditions of the Shah's regime persisted. Moreover, the fall in that ratio was partially compensated for by the rise in the relative share of 'investment outlays' for housing in private income, which was regarded for the purpose of our argument as a form of consumer expenditure.

It was revealed that, given the socio-political structure of the Shah's regime, further taxation of the well-to-do, even if it had intended to, would not have led to slackening of growth in unproductive expenditures at the aggregate level. Although the unproductive expenditures were larger in the private sector, the Government showed a greater tendency than the private sector to spend on unproductive expenditures out of its marginal revenues, i.e. increase in its annual revenues.

The urban and centralisation bias in Government expenditures made the distribution of consumer expenditures more and more unequal against rural areas and small towns. Within the urban areas, to which Government activities were oriented, the size distribution of income worsened sharply after the oil price rise of 1973. The family budget data suggested that following the price rise, the Government employees contributed noticeably to the increase in the concentration of consumer expenditures, but we could not make a clear judgment about the change in the position of the profit earners because of lack of data. Hence, we examined the factorial distribution of income. It appears that the disparity in factorial distribution widened in favour of the profit earners as against workers, not only in the industrial sector but also in other modern activities of the economy within the private sector. The Kalecki-Riach hypothesis on worsening of the inequality owing to the rise in the 'degree of monopoly' in the industrial sector seems to be valid. The data proved that the ratio of gross profit to prime costs increased over time, due to the rise in the price mark-up, in the case of both large and small industrial plants. Though within each year studied the ratio was larger for small plants, this is very likely, it was argued, to be statistical rather than real.

In our view, the widening of inequality in income and consumer expenditures contributed, together with the disparity in distribution of social services considered in Chapter 7, to the speeding up of instability in the Shah's regime and eventually led to its collapse.

Chapter 9

Summary and Conclusions

We have already presented our concluding remarks at the end of each chapter. Here we will put together the main findings of the thesis in order to provide an overall picture and examine their implications for the development and depletion policies of the Iranian Government in the future. Moreover, a few points will be made about large oil exporting countries, and development theory in general.

The rise in the price of oil, which started in 1971 and was sharply accentuated in 1973, enhanced the opportunity for rapid development and provision of basic needs. In spite of an enormous increase in development expenditure in the revised version of the Fifth plan, the Shah's regime failed to increase the growth of non-oil GDP beyond the target rate planned in the original version, drafted before the price rise; in addition, inflation accelerated. The economic failure of the Government, together with social frustration, hastened the collapse of the whole political system. We have tried to explain the socio-economic causes of the halt in growth and of the failure of that regime to spread out benefits of development to the majority of the people.

We began by introducing the concept of diversification in a new sense: it was given a dynamic dimension, and a wide meaning interrelated with oil price and depletion policy and more importantly with development objectives. Accordingly, the economy is to go 'into' oil first, by increasing the share of its value in GNP and exports via raising the oil price, through OPEC. The intention should however be to utilise the revenues to lay the foundation for diversifying the structure of output and exports 'out' of oil in the long run, and to prepare for the time of exhaustion. The earned revenues should

be spent on increasing the growth of non-oil GDP according to the present and future socio-economic needs of the populace. Acceleration of non-oil GDP requires, among other things, the provision of such backing-up services as education, training, health, public utilities and infrastructure, which also figure among the development objectives. Hence, policies concerning diversification are a part of general development objectives. Development is regarded as the ultimate aim; and diversification is the result and at the same time the means through which development takes place. While preparing for the time of exhaustion, diversification also insures the economy against various economic and political risks of concentration in oil, and improves bargaining power.

Although the OPEC price agreement increased the means to diversification, we demonstrated that its achievement was hampered by two main factors: physical shortages, and the 'political will' of the Government. Contrasting with the 'big-push' theories, outlined in Chapter 2, our findings tallied mostly with Kalecki's views on development. We showed, however, that Kalecki over-estimated the role of imports in acceleration of growth and mitigation of inflation. Despite availability of foreign exchange in the case of Iran, the acceleration of growth was thwarted by such supply bottlenecks as the physical capacity to import, the shortage of skilled labour and training facilities, the lack of infra-structure and distributional network, the slow growth of 'supply-determined' commodities, i.e. such non-tradeable inputs as electricity, and agricultural goods. Furthermore, the structural imbalances in supply and demand in both the commodity and labour markets, particularly the latter, led to acceleration of inflation, which featured a mixture of demand-pull and cost-push elements. Imported inflation had only a small effect on the general price rise. In combination with a fixed exchange rate, which was made possible by oil and favoured by the vested

interests of the 'governmental class', inflation substantially reduced the degree of competitiveness of non-oil exports in international markets following the oil price rises of 1971-74. The unit labour cost of manufacturing commodities rose by about 50 percent against the USA between 1970 and 1977. We suggested however that a uniform devaluation would not be an effective measure for inducing non-oil exports; the Government would be well advised to apply a system of dual exchange rate and/or subsidisation policies.

Nevertheless, it was proved that the problems of development did not result entirely from aiming at an over-ambitious growth rate. The physical shortages and inflation were in fact aggravated by Government policies. In contrast to the earlier theories of trade and development, oil, while having a special advantage for development, could not act as an 'engine' of development automatically. Its impetus was to emerge from the utilisation of revenues by the Government whose role in the economy, in terms of the ratio of budget to national income, became more decisive than in many socialist countries. The very oil sector, however, affected the 'political will' of the Government, in a way unfavourable for acceleration of development and spill-over of its benefits. By relying on oil revenues the Government alienated itself from the masses of the people who lacked control over its activities and policies. 'Despotism' and 'Governmentalism' were intensified; the objectives of the Government were different from the aspirations of the populace.

Incompetent planning, over-reliance on the role of imports of goods and labour, lack of attention to raising the activity rate of women - all contributed to the problems of acceleration. The most inimical factor, however, was a sharp diversion of Government expenditures to 'non-productive' uses which, together with a rapid expansion of private consumption and demand for housing, limited

the supply of physical resources to the productive sectors and exacerbated inflation. The sharp rise in wages and prices in the construction sector was shown to be evidence of such policies. The Government made little effort to tax the well-to-do. None the less, we revealed that even if the private sector had been further taxed, it would not have eased the bottlenecks to development to any considerable degree. The consequent restriction of private consumption and investment in housing would have been outweighed, to a great extent, by expansion of unproductive expenditures in the public sector.

The functional allocation of the budget was in particular biased in favour of military expenditures to strengthen the power of the State machine, and against socio-economic services necessary for growth and demanded by the masses. Similarly, expenditure, price, and credit policies were biased against agriculture and contributed to its slow growth. We examined the case of wheat and meat, which constitute the bulk of agricultural commodities, and concluded that not only did they suffer heavily, like other agricultural commodities, from mounting labour costs, but also from the Government price control policy which led to a fall of their relative price as against non-agricultural commodities. Yet, the Government favoured imported items in its subsidisation and exchange rate policy; in a sense those commodities were negatively protected.

Again, the Government was chiefly responsible for the worsening of distribution of benefits of development, i.e. distribution of development expenditures, social services and private consumption. The 'governmental class', a minority, were the main beneficiaries. Whereas the bureaucratic machine enjoyed a privileged position in wages, salaries and fringe benefits, the Government was biased in its allocation policy against politically powerless rural areas and small towns. Government policies also contributed to a

drastic widening of urban-rural and regional disparity in private consumer expenditures. Within the urban areas, towards which Government activities were oriented, the size distribution of private consumer expenditures worsened extraordinarily following the oil price rise; the Gini coefficient of concentration rose from 0.39 in 1972 to 0.48 in 1975. In addition to the role of Government employees, we presented some evidence, despite poor data, that one cause of the extreme concentration of those expenditures in the urban areas was the worsening of factorial distribution of income in favour of profit, together with the failure of the Government to mitigate it by taxation or other policies. In the manufacturing sector specifically, the increase in the 'degree of monopoly' was shown to have contributed to the worsening of the factorial distribution of income through an increase in the profit-prime cost ratio along the lines hypothesised by Kalecki.

Our study indicates that while going 'into' oil has taken place fast and easily, going 'out' of it involves formidable obstacles. On the one hand, the reliance on imports rose substantially owing partly to lack of domestic supply, partly to waste of imported materials, and partly to a jump in imports of armaments. As a result, the surplus in the current account of the balance of payments disappeared before the revolution, i.e. in the first half of 1978, in a matter of five years after the oil price rise. On the other hand, the reliance on oil in the production structure and in exports remains extraordinarily high. The economy has become more than ever exposed to external risks. In particular, the sharp rise in reliance on imports of foods and other essential goods has added to the bargaining 'liability' of the country.

Obviously the heightened reliance on oil in the short run is not strange, as explained in Chapter 3. However, to repeat, our study indicates that going

'into' oil is one thing and getting 'out' of it is another. Oil revenues cannot serve as a panacea for fast diversification and development.

The political situation has substantially changed since the revolution. Hopefully, satisfying the socio-economic needs of the majority of the people will be the objective of the new Government; or at least it will have a better intention and 'political will' than the previous regime in distributing the benefits of development. For the moment, the immediate burning issue in Iran is not to accelerate growth, but to maintain production at previous levels. The Government is faced with many economic problems partly related to the trade sanctions on Iran and the conflict with the West. The long-run problem of diversification, nevertheless, still remains to be tackled. However well intended the Government may be, there are still physical as well as institutional barriers to acceleration of growth in non-oil GDP, not only in the short but also in the long run. In the short run, all supply bottlenecks could reappear, or be intensified if growth were accelerated. In the long run, growth is limited by the supply of skilled labour and the ability to adapt new technology. Development is limited by time. It takes time to overcome the shortage of skilled labour, to expand education and training, to learn new technology and the know-how necessary for diversification. It also takes time to remove institutional barriers to development of agriculture. Finally, it takes time and effort to find international markets for exports. The faster the rate of depletion of oil, the shorter the period of time available to diversify the economy. Hence, slow depletion may buy time for easing the bottlenecks to development. If the economy cannot go out of oil fast, the process of going 'into' oil should be slowed down. This does not mean pursuing a low price policy in OPEC, but restricting output to a level allowed by possibilities of domestic investment. In other words, the rate of depletion

should be determined by the ability of the economy to accelerate development, taking for granted that the new regime is not interested in investment abroad; the latter option does not seem particularly promising as compared with keeping oil in the ground or investing inside the country, as we argued in Chapter 3. Experience of recent years shows that oil in the ground is very likely to appreciate in value; development of substitutes takes time, and it is highly probable that the oil market will remain strong for a considerable period; hence slow depletion also seems to pay on that score. Even if substitutes are developed, oil could still be used as a raw material and as a cheap energy input to industrial products to compete in the international market. More significantly, an abortive injection of oil revenues to accelerate growth of non-oil GDP will certainly result not only in over-depletion and waste of oil, but also in even greater reliance on oil revenues. This process perhaps involves more economic and socio-political risks than leaving oil in the ground.

It is not easy to suggest an exact rate of depletion, for the mere reason that one does not know what precise rate of growth is feasible. There are many economic and socio-political forces in play, as mentioned in Chapter 7, affecting the feasible rate. It would be naive, however, not to take into account, in the Government's depletion policy, the relevance of the inimical role of supply bottlenecks in acceleration of non-oil GDP. This important issue was not considered by the Shah's regime. (It should be noted that even the orthodox theory of exhaustible resources does not explicitly consider the relevance of supply bottlenecks.)

There is yet another long-run problem to be overcome demanding strenuous effort. The Government is faced with the difficult task of lowering the expectations of the people concerning oil. There are signs that although many

'unproductive expenditures' have been reduced since the revolution, the Government is faced with the pressure from the people for higher present consumption. The people have to be educated that oil is a non-reproduceable asset which should be transformed into reproduceable ones; it should not be used for consumption. In that respect, a radical change should take place in the tax system, in the attitude of the bureaucracy and in the expectations of the masses. These are not easy tasks; perhaps they require yet another revolution!

We cannot generalize all our findings and suggestions for other oil exporting countries. Each oil economy features its own particular socio-economic characteristics, e.g. availability of oil and other resources, as well as political stance. Two points, however, may be relevant to all large exporting countries which have attempted acceleration of growth since 1973. Firstly, oil money alone cannot surmount all obstacles to development: supply bottlenecks put a ceiling on the rate of acceleration. Secondly, oil is doomed to affect institutional factors and political behaviour in a negative way.

As regards development theory, possibilities of generalizations on the basis of experience of Iran are very limited because of her specific socio-political conditions and also her economic differences with non-oil economies. Generally speaking, our view is that although all developing countries have some features in common, each country has its particular socio-economic characteristics. Hence, unlike some economists who have tried to present a general theory of development applicable to all developing countries, we believe each case should be studied in the light of its peculiarities. The present study, however, makes two points which can be generalized. First, that we were justified in distinguishing

between growth and development. Growth should be considered as a necessary condition of development, but not a sufficient one. The structure of output should be geared towards provision of economic as well as social needs of the majority of the people.

Second, that the importance of 'socio-political factors' in development should not be underestimated. Accordingly, in contrast to the recent voluminous literature which has advocated the establishment of a 'new international economic order', we think a 'new internal socio-political order' is also essential for most developing countries.

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A.1 Appendix on:

Expected Return - Variance of Return (E-V) Rule in Trade Diversification

The 'returns' that an economy, here an oil economy, derives from the export of a commodity, or commodities, however such returns are defined, may be considered as a random variable with a probability distribution. Such returns may consist of foreign exchange earnings and the resultant welfare received by the 'supply effect' of imports; government revenues, or farmers' income; employment - or some weighted subset of these characteristics. These represent benefits to the economy that may be subject to uncertainty - thereby risks. For the sake of simplicity, we assume here that the return on exports consists only of total export earnings (X). The mean value of returns (or the mean value of the rate of growth of returns) can be shown as $E(X)$. All the risks outlined earlier, namely fluctuation in export earnings, cessation of trade, substitution, and breakdown of OPEC, can be represented by variations in the returns around the trend. The variations may be caused by changes in the volume, price, or a combination of both, depending on the type of risk.¹ They may be measured in terms of variance ($V(X)$). Before going further, the following points need mentioning. Firstly, we should repeat that production for the home market also involves risks; and trade in fact reduces risks of self-sufficiency and fluctuation in domestic consumption. Secondly, exportables may also have domestic consumption. Thirdly, the sources of risks may be external or internal. None the less, we are concerned in the first instance with the external risks related to foreign exchange earnings.

1. Note that changes in the volume and price could be in the same direction or in the opposite direction. For example in the case of breakdown of OPEC they may change in the opposite direction.

Each export commodity, or a range of commodities, can be regarded as an investment by the community. The export vector of the economy at any point in time may be considered as a 'portfolio' of community investments in export commodities. We may call this set 'the community's export portfolio', or trade portfolio. We know that in an oil economy the Government is directly involved in trade in oil. Furthermore, we assume, rightly, that the Government is the major decision maker, playing a predominant, direct and indirect, role in the allocation of resources to various commodities through planning and/or other means as we have shown elsewhere in this thesis.¹ One may hypothesise also that the Government in a country does (or should) represent the community and safeguard the national interest. Finally, we assume that the Government does (or should) consider returns to be desirable, and the variance of returns to be undesirable particularly where a large stake - oil - is at risk. This means that the Government avoids gambling; it is a risk averter. Without this assumption we are not able to use E-V rule in our argument. Fortunately, it seems a plausible assumption in an oil economy as we argued in the text.

Suppose that X_1 and X_2 represent the values of exports of two commodities, or two sets of commodities, respectively. For example, assume that X_1 represents a primary commodity, here oil, or a set of primary commodities, for which a country enjoys comparative advantage; and X_2 stands for a non-primary commodity, or commodities. Hence,

$$X = X_1 + X_2 \quad \text{or} \quad X = a_1 X + a_2 X;$$

where X is the total value of exports and a_1 and a_2 represent the share of X_1 and X_2 in total export earnings of the country, respectively, i.e. $a_1 + a_2 = 1$. Then, the expected value (or mean) of X , $E(X)$, and its variance,

1. See Chapter 4.

$V(X)$, are as follows:

$$1) \quad E(X) = a_1 E(X_1) + a_2 E(X_2); \quad \text{and } V(X) = E[\bar{X} - E(X)]^2; \quad \text{or}$$

$$2) \quad V(X) = a_1^2 V(X_1) + a_2^2 V(X_2) + 2 a_1 a_2 \text{COV}(X_1, X_2).$$

If we assume that $E(X_1)$ is independent of $E(X_2)$; i.e., the returns on X_1 and X_2 are independent from each other; then $\text{COV}(X_1, X_2) = 0$, and

$$3) \quad V(x) = a_1^2 V(X_1) + a_2^2 V(X_2).$$

The question to be answered is: how are a_1 and a_2 to be determined?

Suppose that the Government of the country has a known belief of the expected return and variance of return of X_1 and X_2 according to its knowledge of the international market, income elasticity of demand and other characteristics of the commodities, as well as political factors.

For the purposes of this argument one may distinguish two cases: i) $V(X) = 0$ and ii) $V(X) > 0$. The former case is the attribute of absolute certainty about the future of returns. In the absence of risks, and in a world free of absolutely insurmountable barriers to, and interference in, international trade, a country wishing to maximise returns (gains) from trade is to concentrate in production and exports of the commodity(ies) with the greatest comparative cost advantage, here oil.

However, in an uncertain world (case ii) commodity concentration in oil may increase the risks involved in trade. In this case in deciding on the allocation of resources to X_1 and X_2 , the Government has a choice of various combinations of E and V . Suppose that the set of all attainable (E - V) combinations were as in the following figure. This set may be called the Opportunity Locus.¹ According to the E - V rule, the Government would (or

1. See Markowitz (1952), p. 82.

should) choose one of those portfolios which give rise to the (E-V) combination which is efficient. An efficient set is a diversified portfolio which minimises V for a given E or more, or maximises E for a given V or less.

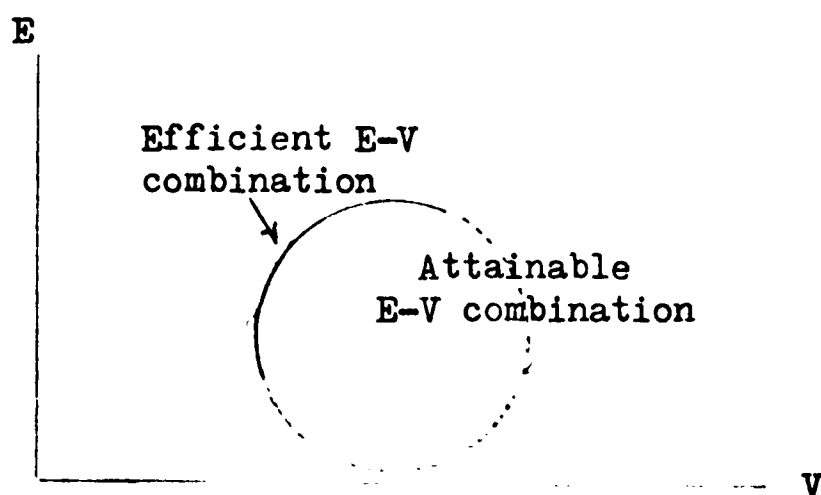


Fig. 1. Efficient E-V Combination

Source: Markowitz (1952)

As is clear from the figure, only the solid part of the Opportunity Locus constitutes efficient portfolios.

Which portfolio is chosen among the efficient portfolios depends on the system of the 'risk-expectation decision curves' of the Government. Note that we refer to 'Government decision curves' rather than 'indifference curves' to avoid the problems involved in the latter.¹ At any rate since the Government is assumed to be a risk averter, it has diminishing marginal utility of return as is shown in Figures 2.a and 2.b. Its preference regarding combinations of E-V is such that as it takes more risk it must be compensated by a higher expectation of return. The Government will choose the attainable combination of E-V that lies on the highest decision curve; that is, it chooses the point of tangency of the efficient part of the attainable Opportunity Locus (CD) with the highest decision curve, KK'. The tangency point is represented by A in the figures. The steeper the decision curves, the closer is A to the point of origin (compare figures 2a and 2b). In other

1. See Seitovszky (1942).

words, the more risk-averse a Government is, the greater will be its readiness to trade-off higher return in favour of lower risk.

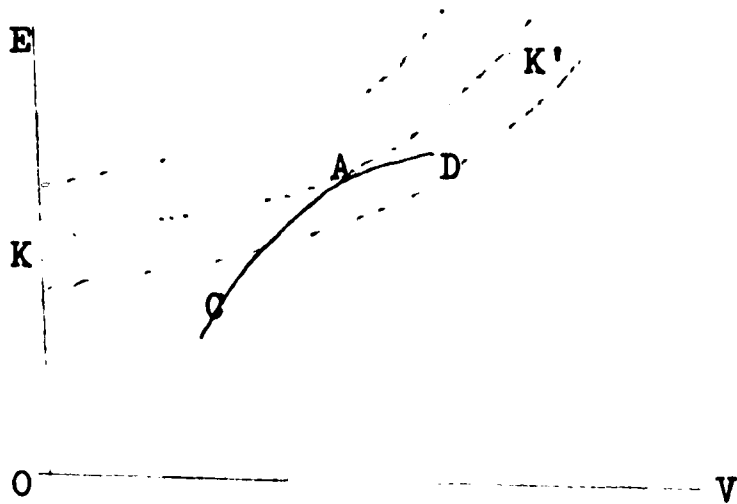


Fig. 2.a

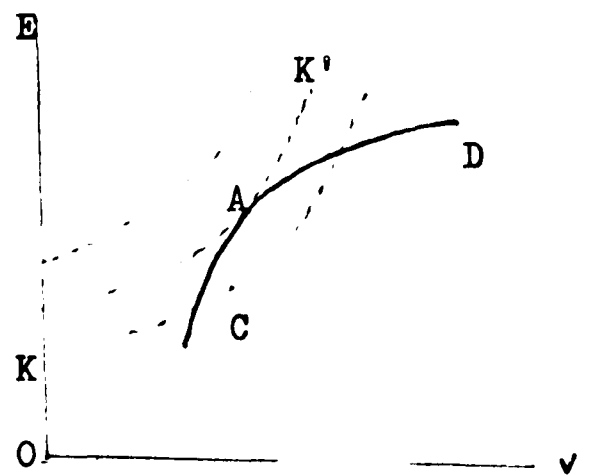


Fig. 2.b

Choice of portfolio

According to the E-V rule, diversification between equally good portfolios (portfolios with equal expected returns and equal variance of return) cannot produce a worse portfolio, and generally will produce a better one, provided that $E(X_1)$ and $E(X_2)$ are independent. Assume that $E(X_1) = E(X_2)$ and that $V(X_1) = V(X_2)$. Then we can show that: the expected return on diversified portfolios is equal either to $E(X_1)$ or $E(X_2)$, but its variance (risk) is smaller than those of undiversified portfolios. In other words, $E(X) = E(X_1) = E(X_2)$; but $V(X) < V(X_1) = V(X_2)$. This is because:

$$E(X) = a_1 E(X_1) + a_2 E(X_2); \text{ or after substituting } E(X_1) \text{ for } E(X_2),$$

$$E(X) = (a_1 + a_2) E(X_1). \text{ Since } (a_1 + a_2) = 1, E(X) \text{ will be equal to } E(X_1);$$

similarly $V(X) = a_1^2 V(X_1) + a_2^2 V(X_2)$; and $V(X) = (a_1^2 + a_2^2) V(X_1)$, because $V(X_1) = V(X_2)$; and $V(X) < V(X_1) = V(X_2)$ because $(a_1^2 + a_2^2) < 1$.

It also follows that if $V(X_2) > V(X_1)$, i.e. even if X_2 brings more risk than X_1 , a diversified trade portfolio is superior to an undiversified trade portfolio constituting only X_1 .¹

1. That is $V(X) < V(X_1)$ which in turn is less than $V(X_2)$. With some calculation one can show that $V(X) = a_1^2 V(X_1)$; since $a_1^2 < 1$, $V(X) < V(X_1)$.

The above conclusions are in contrast with those reached in case (i); when there is uncertainty a diversified trade portfolio is under certain conditions preferred to an undiversified one. It should be emphasised that the E-V rule does not imply that diversification always pays. To repeat, only under certain conditions is trade diversification definitely better than trade concentration. These conditions are mostly related to the assumptions under which the E-V rule is built, and partly related to differences in the nature of 'trade portfolio' and 'security portfolio' as explained in the text.

Appendix A.2: the Budget Data

Technical notes on the data on Government budget

The sources of data on Government budget are of two sorts: primary and secondary. The first include the texts of Budget Settlement Acts, and the texts of the Annual Budget Acts. The latter texts show in each year, the approved figures for that year and the previous year, as well as the actual figures for two years back. The second source includes the Plan Organisation and the Treasury. The literature on Iran is based almost exclusively, as far as I know, on secondary sources, perhaps for the simple reason that they are readily available. We found the secondary sources unsatisfactory on reliability grounds. In many cases, the figures provided by these sources, in particular those on development expenditures, were different from those of the primary sources. To our belief, primary sources are more reliable than the secondary sources because the commitment of the relevant authorities before parliament makes them to be as accurate as possible. Hence we used primary sources, namely the Annual Budget Acts, though such a choice involved a cost. The cost was related to the tedious and time-consuming process of collection, extraction, reclassification and unification of the data. The organisational, economic and functional classification of the budgets differs for the periods before and after 1971 - when the new public Accounting Act, approved by parliament in 1970, came into effect. Functional classification sometimes varies even from one year to another.

Let us begin with organisational and economic classification of the Government Budget. The Government Budget is distinguished from the State Budget which also includes the budget of Profit Making Organisations, State Corporations and other organisations, i.e. non-profit making and charity

organisations. Before 1971, the Government budget included Ordinary Budget and Development Budget. Ordinary Budget in turn consisted of General Budget and special items which for simplicity we call Special Budget. The General Budget was run through the Treasury, the Development Budget by the Plan Organisation, and the Special Budget by various ministries without interference from either the Treasury or the Plan Organisations. While taxes were received almost entirely by the Treasury, oil revenues were divided between the Treasury and the Plan Organisation. Before 1963, oil revenues were partly allocated to NIOC; and these items were not included in the Government Revenues. Both the Treasury and the Plan Organisation could borrow, in the internal and external markets. Receipts in exchange for services were main items in Special Revenues.

Ordinary Expenditures consisted, basically, of current expenditures though a small proportion of them was allocated for investment in Government buildings, furniture and office tools and machinery. For the period between 1963 and 1970 (inclusive) these items accounted for about 2.6 per cent of Ordinary Budget, or about 1.8 per cent of total Government Budget.

Expenditures of Development Budget included Development Expenditures, Recurrent Development Expenditures and Current Expenditures. Development Expenditures were in the form of fixed capital investment and included all non-fixed associated items related to the development projects during the study period, planning period, and implementation period. The Recurrent Development Expenditures were those current expenditures of various ministries financed by the Plan Organisation. The Current Expenditures consisted of administrative expenditures of the Plan Organisation and interest payments on loans received by the Plan Organisation. Repayments of principal of loans and payments of debts were included partly in the Ordinary and partly in the Development Budgets.

Unfortunately the nature of the expenditures financed by Special Revenues are not clear from the texts of the Budget, neither before nor after 1972. However, from our own experience in budgeting and by the impression one gets from official publications, it seems likely that they are totally allocated to current expenditures.

Since 1971 the budget has included the General Budget and Special Budget. General Budget here comprises all items, excluding of course those of Special Budget. Expenditures of the General Budget are classified into Current Expenditures and Fixed Investments, which include the related aforementioned non-fixed items. Unlike the previous period, here the Treasury is the only responsible body for collecting all revenues, and for payments of all expenditures, except for those of the Special Budget.

To draw a consistent time series from the data, we modified the organisational and economic classification used in the Budgets before 1972, as follows. First we regarded the sum of Ordinary and Development Budgets as General Budget. Secondly, current expenditures of the Ordinary Budget, Current Expenditure of the Plan Organisation, and Recurrent Development Expenditures, were considered as Current Expenditures. Payments through the Ordinary and Development Budgets, as interest and miscellaneous debts, are also included in the Current Expenditures, but repayments of the principal of loans are excluded. To allow for the difference we called the sum of Current Expenditures and repayments of the principal of loans as Current Appropriations.

Thirdly, the sum of Development Expenditures, excluding the Recurrent and current items, and fixed investment through the Ordinary Budget were considered as Fixed Investment.

As far as the functional classification is concerned, the annual budget, in both periods, is classified into five sections. Four are devoted to various 'Affairs'; and one is devoted to 'Other Expenditures'. Those 'Affairs' cover Public Affairs, Defence Affairs, Social Affairs and Economic Affairs. Each Affair includes a few Chapters in the new classification, or a few Functions in the old classification. Each Chapter, or Function is divided into Programmes; each Programme contains some current activities and/or development projects. 'Other Expenditures' consist of miscellaneous expenditures, payments of debts and interests, and repayment of principal of loans.

Unfortunately, the components of Affairs, Chapters or Functions and even Programmes differ from one period to another. They differ in some cases even from one year to another. The case of defence expenditures is one example. Components of 'Other Expenditures' were also grouped under different headings on some occasions.

To make use of the data a reclassification was obviously necessary; at the same time, going through all the bits and pieces of data was a job beyond the capacity of one person in a limited period of time. The best we could do was to reshuffle the Chapters, or Functions, to draw a steady series for various Affairs and also to take care of important items, in terms of quantity, in Programmes and their subdivisions.

Moreover, to make the data more suitable for our purpose, we introduced an independent classification. Our classification includes general administration; defence, military defence, civil defence, internal security, military industries, defence buildings and military education; socio-economic infrastructure, education, health and other social affairs; economic infra-

structure, transport, ports, communication and tele-communications;
economic affairs, including various sectors of the economy; miscellaneous
expenditures; interest and commission; repayment of principal of loans;
and foreign investments, loans and aids.

Table A.2.1

Functional distribution of Government expenditures in the general budget* 1962-77

Year	Productive (Rl.b.)					Total 6 = 1 - 5
	Investment ¹ (1)	Econ. Inf- rastructure ² (2)	Soc. Econ. Infrastructure			
			Education ³ (3)	Others ⁴ (4)	Total (5)	
1962	4.9	6.4	9.9	5.9	15.8	27.1
1963	8.2	7.8	11.3	6.2	17.5	33.5
1964	12.5	9.5	13	9	22	44
1965	17.2	12.4	15.5	12.9	28.4	58
1966	18.3	14.9	16.1	14	30.1	63.3
1967	31.1	17.5	17.2	14.5	31.7	80.3
1968	45.8	17.6	19.2	16.4	35.6	99
1969	47.2	23.4	21.4	15.2	36.6	107.2
1970	58.8	26	23	18.5	41.5	126.3
1971	60.5	34.3	26.6	25.8	52.4	147.2
1972	63.6	30.6	37.5	37	74.5	168.7
1973	64.9	29.8	50.8	58.8	109.6	204.3
1974	155	61.8	88.2	149.8	238	454.8
1975	252.6	89.6	123.1	183.1	306.2	648.4
1976 [†]	296.1	96.1	163.8	186.6	350.4	724.6
1977 [†]	509.7	168.3	229.5	240.8	470.3	1218.8

* Does not include investment abroad and grants and loans.

† Approved.

1. All investments except those of 'general affairs', economic infrastructure and military industries and buildings.
2. All expenditures of transport, communication and telecommunication.
3. Excludes military education and police training.
4. Includes subsidies, housing, environment, social security, urban and rural development, culture, youth affairs, regional development as well as health.

Table A .2.1 contd

Year	Unproductive (Rl.b.)				Total Exp. Rl.b. (11) = 6+10	Rep. & int. Rl.b. (12)	Total ⁸ Rl.b. (13) = 11 + 2
	General adm. ⁵	Military ⁶	Misc. & ⁷ debt	Total			
	(7)	(8)	(9)	(10)			
1962	4.7	16.1	4.4	25.2	52.3	4.7	57
1963	4.2	16.9	4.4	25.5	59	5	64
1964	5	19	2.8	26.8	70.8	4.7	75.5
1965	7.6	24	2.6	34.2	92.2	6.9	99.1
1966	8.5	30.6	1.2	40.3	103.6	6.5	110.1
1967	9.3	36.8	0.7	46.8	237.2	10.5	147.1
1968	13	45.8	9.5	68.3	167.3	21.4	188.7
1969	16.1	58.1	8.6	82.8	190	16	206
1970	18.4	68.4	7.8	94.6	220.9	37.1	258
1971	23.3	89	5	117.8	265	54.8	319
1972	33.1	119.6	14.6	167.3	336	74.3	410.3
1973	43.7	185	20.7	249.4	453.7	69	522.7
1974	84.2	453.3	234.5	772	1226.8	126.3	1353.1
1975	120.1	594.7	167.4	882.8	1531.2	73.5	1604.7
1976†	108.8	693.7	206.7	1009.2	1734	63.5	1797.5
1977†	220.5	674.1	389.1	1283.7	2502.5	98.6	2601.1

† Approved.

5. Excludes subsidies, defence building, internal security, security buildings, but includes all other buildings and administration of economic affairs.
6. Defence (military and civil), internal security and investment in military buildings and industries.
7. Includes 'special payments' and 'payments by special authorisation'.
8. There are small discrepancies between these items and the sum of relevant payments shown in Table A.2.2 due to rounding and statistical errors; but those of 1976 and 1977 are explained by the differences between approved and actual figures.

Sources: Compiled by the author based on annual Budget Acts.

Table A.2.2
The summary of the Government budget 1962-77

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976*	1977*
General revenues:																
oil & gas	23.7	27.6	36.4	50	48.6	54.1	61.8	76.4	85.6	155.3*	178.2	311.3	1205.3	1246.8	1329.1	1497.8
others	29.3	31.6	32.7	40.5	48.8	52.4	64.8	75.8	87.8	103	123.9	153.5	189.1	335.3	414.9	536.5
Direct taxes	4.7	5.8	5.2	8.3	9.4	10.1	13.2	21.8	26.5	30.2	41.9	52.8	72.1	151.9	187.8	230.3
Indirect taxes	4.1	4.4	7	7.4	10.3	11.4	14.8	15.5	17.9	13.1	27.5	17.6	22	26.3	32.5	44.1
Custom revenues	8.6	10.1	11.2	13.2	16.2	18	21.8	23.9	26.9	27.3	33.2	60.7	63.1	92.7	122.6	167.4
Non-tax revenues ¹	11.9	11.3	9.3	11.6	12.9	12.9	15.2	14.6	16.5	32.4	22.3	22.4	31.9	64.4	72	94.7
Total revenues	53	59.2	69.1	90.5	97.4	106.5	126.6	152.2	173.4	258.3	302.1	464.8	1394.4	1582.1	1744	2034.3
Payments:																
Fixed investment	13.2	18.5	26.7	37.1	37.8	53.3	64.5	79.85	98.2	116	131.8	161.2	348.7	526.8	591.5	921.6
Others:	44.7	45.3	48.8	67.7	69.9	83.7	119	125.9	161.2	204.4	283.4	371	1162.6	1249.1	1322.1	1593.2
Current exp.	43.2	44.1	47.5	61.5	68.2	80.8	107.5	117.3	133.2	173.4	224.7	316.9	727.8	929.3	1047.3	1223
Payments by special authorisation	-	-	-	-	-	-	-	-	-	-	-	-	175.6	112.1	139.3	275
Repayments of loans	1.5	1.2	1.3	2.2	1.7	3.1	11.5	8.6	28.2	31	53.7	53.4	98	40.1	36.5	17.6
domestic loans			nil			(1.5)	(3.4)	(5.6)	(8.9)	(13.3)	(43.6)	(35.8)	(37.2)	(20)	(18.9)	(2.1)
Grants, loans, and investment abroad												0.2	161.2	167.5	99	77.4
Total payments	57.9	63.8	75.5	100.8	107.7	137	183.5	205.8	259.3	320.4	415.2	532.9	1511.3	1775.9	1913.7	2515.4
Payments-Revenues	4.9	9.5	6.4	10.3	10.3	30.5	56.9	53.6	85.9	62.1	113.1	67.4	116.9	193.8	169.7	480.5
Financed by:																
Foreign loans						10.1	21.2	22.5	28.1	28.3	25.8	15.7	9.5	6.1	25.4	29.4
Domestic loans and credits	4.9	9.5	6.6	10.3	10.3	19.9	31.6	31.6	59.1	33.8	89.9	94.3	0	0	0	350
Others incl. counter account items ² and discrepancies						0.5	-1.1	-0.5	3.7	-	-2.6	-42.6	107.4	177.7	144.3	101.1

* preliminary.
 1. Includes sales of goods and services, share of Government in profits of public corporations and enterprises, and investment abroad.
 2. Transfers from one year to another.
 Sources: Annual Budget Acts, except for 1977 which is based on B.M.I., An. Rep., 1977, pp. 222-7.

Table A.2.3

Summary of planned and actual Government financial operation during the Third and the Fourth Plan (Rl.b. unless stated)

P = Planned

A = Actual

I = Increase

	Third plan (mid 1962-67) ¹				Fourth plan (1968-72)			
	P	A	I		P	A	I	
			Rl.b.	%			Rl.b.	%
Total revenues:	<u>386.9</u>	<u>437.7</u>	<u>50.8</u>	<u>13.1</u>	<u>849</u>	<u>1012</u>	<u>163.6</u>	<u>19.3</u>
Oil Revenues	<u>197.4</u>	<u>228.6</u>	<u>31.2</u>	<u>15.8</u>	<u>487.1</u>	<u>557.3</u>	<u>70.2</u>	<u>14.4</u>
Non-oil revenues	<u>189.5</u>	<u>209.1</u>	<u>19.6</u>	<u>10.3</u>	<u>362</u>	<u>455.3</u>	<u>93.3</u>	<u>25.7</u>
Taxes & C.R. ²	(153.8)	(157.6)	(3.8)	2.5	(251)	(355.3)	(104.3)	41.6
Taxes	(98.3)	(84.5)	(-14.1)	-18.8	(126)	(222.2)	(96.2)	76.3
C.R.	(55.5)	(73.1)	(17.6)	31.7	(125)	(133.1)	(8.1)	6.5
Non-tax revenues	(35.4)	(51.4)	(16)	45.2	(111)	(101)	(-10)	-9
Total payments ³	<u>445.1</u>	<u>513.8</u>	<u>68.7</u>	<u>15.4</u>	<u>1060</u>	<u>1384</u>	<u>324.2</u>	<u>30.6</u>
Gross deficits	<u>-58.2</u>	<u>-76.1</u>	<u>17.9</u>	<u>30.8</u>	<u>-211</u>	<u>-371.6</u>	<u>160.6</u>	<u>76.1</u>
as percentages of total revenues								
Oil revenues	51.	52.1	61.4		57.4	55	42.9	
Taxes & C.R.	39.8	36	7.4		29.5	34.9	63.7	
Taxes	(25.4)	(19.3)	(-27.7)		(14.8)	(21.8)	(58.9)	
C.R.	(14.3)	(16.7)	(34.6)		(14.7)	(13.1)	(5)	
Non-tax revenues	9.1	11.7	31.4		13.1	10	-6.1	
Total revenues	100	100	100		100	100	100	
Gross deficits	15	17.4	35.2		24.8	37.6	28.1	

1. The actual figures include half the total for 1962.

2. Customs revenues.

3. Planned expenditures of the Fourth plan include Rl. 45 billion current expenditures transferred from the Third plan and Rl. 5 billion fixed investments for the gas transmission project.

Sources: Planned figures. Outline of the 3rd Plan, pp. 54, 58, 60, 64-65, and 4th National Plan, pp. 61-3; actual figures based on Table A.2.2.

Table A.2.4

Summary of planned and actual Government financial operation during the Fifth plan

O = Original approved R = Revised A = Actual					
	Amount (Rl.b.)			Increases	
	O	R	A	A - R	
				Amount (Rl.b.)	%
Total revenues:	<u>2496.1</u>	<u>8096.5</u>	<u>7219.0</u>	<u>- 877.5</u>	<u>- 10.8</u>
Oil revenues	<u>1577.7</u>	<u>6628.5</u>	<u>5589.5</u>	<u>-1039.0</u>	<u>- 15.7</u>
Non-oil revenues	<u>918.4</u>	<u>1468</u>	<u>1629.5</u>	<u>161.5</u>	<u>11</u>
Taxes & C.R.	(698.3)	(1215)	(1344.1)	(129.1)	10.6
Taxes	(454.3)	n.a.	(837.6)		
C.R.	(244)	n.a.	506.5		
Non-tax revenues	(320.1)	(253)	(285.4)	(32.4)	12.8
Total payments*	<u>3344</u>	<u>8296.5</u>	<u>8136.6</u>	<u>-159.9</u>	<u>-1.9</u>
Gross deficits*	<u>-847.9</u>	<u>-200</u>	<u>-917</u>	<u>717</u>	<u>358.5</u>
Gross deficits	n.a.	n.a.	-1031		
Net deficits	-718.5	205	-785.4	-990.4	
Net deficits minus investments abroad	n.a.	950.1	-286.6	-1236.7	
as percentages of total revenues					
Oil revenues	63.2	81.8	77.4	-118.4	
Taxes & C.R.	21.2	14.9	18.7	14.7	
Taxes	18.1	n.a.	22		
C.R.	9.7	n.a.	7		
Non-tax revenues	15.6	3.2	4.0	3.7	
Total revenues	100	100	100	100	
Gross deficit*	34	2.4	12.7	81.7	

* Net of repayments of principal of domestic loans; items of actual deficits include Rl. 295.1 b. counter account items.

Sources: The 5th Plan, A Summary, p. 10; The 5th Plan. Revised, A Summary, p. 20; and Table A.2.2 of this thesis.

Table A.2.5

Net injection of funds into the economy by the Government, 1962-77

	Gov. Expend. ¹ Rl.b. (1)	Non-oil Revenues ² Rl.b. (2)	Net Injection Rl.b. (1)-(2)=(3)	Net injection as % of non- oil GDP	Growth rate of injection (%)
1962	56.4	29.3	27.1	9.5	
1963	61.6	31.6	30	10	1.1
1964	74.2	32.7	41.5	12.2	38.3
1965	98.6	40.5	58.1	15.1	1.4
1966	106	48.6	57.4	13.9	-1.2
1967	133.9	52.4	81.5	18.1	41.9
1968	172	64.8	107.2	20.9	31.5
1969	197.2	75.8	121.4	21.2	13.2
1970	231.1	87.8	143.4	22.3	18
1971	289.4	103	186.4	25.3	30
1972	356.5	123.9	232.6	25.1	34.8
1973	478.1	153.9	324.2	27.1	39.4
1974	1252.1	186.5	1066.6	65.2	228.2
1975	1568.4	324.3	1244.1	59.2	16.7
1976	1778.2	495	1282.4	50	3.1
1977	2419	516.1	1903.5	53.6	48.4

1. The sum of current expenditures and domestic investment.

2. Excludes interest earned on investment abroad which was Rl. 2.6 in 1974, Rl. 11 in 1975, Rl. 18.6 in 1976, and Rl. 20.4 in 1977.

Sources: Based on Table A.2.2.

Table A.2.6

State expenditures in Iran at various levels in selected years

	Central ¹ Government (Rl.b.)	Public enterprises & Corporations (Rl.b.)	Local Governments (Rl.b.)
1963	66.8	28.1	2.2
1970	270.4	97.9	6.9
1972	430.3	147.8	8.5
1974	1536	367.4	12.7
1976	1960.4	685.1	25.2
1977 ²	2422.8	1183.7	33

1. Includes expenditures financed through special revenues.

2. Preliminary

Sources: Columns (1) and (2) based on Table A.2.2 and relevant Budget Acts;
Column (3) based on B.M.I., Bureau of National Accounting.

Table A.2.7

Government loans¹ to the private sector and equity share participation in selected years

	<u>1963</u>	<u>1970</u>	<u>1972</u>	<u>1977²</u>
Agriculture	1098	1399	3865.8	14728
Industry and mining	386	1094	25100.6	15861.6
Housing	-	-	520	1430
Total	1484	2493	6887.4	32493.6

1. For investments as well as current expenditures.

2. Preliminary.

Sources: Relevant Budget Acts.

Table A.2.8

Accumulated principal of foreign loans obtained by the state for 1962-72

	<u>before 1962</u>	<u>£m. 1962-67</u>	<u>1968-72</u>	<u>Total</u>
1. Total loans	n.a.	530.7	3571.3	4102
2. Repayments	n.a.	343.8	1288.5	1632.3
3. Accumulated loans (1-2)	530	186.9	2283.6	2999.7

Sources: Based on Table A.2.2, and the P.B.O.

Notes on Tables A.2.9 - A.2.11

Let us mention three points about these tables. Firstly, the countries listed in Table A.2.9 are grouped according to the nature of their main commodity export, namely oil, other minerals, or crops. The table also presents the ratios of the main export item to national income. It should be noted that though data on national income and public expenditures of developing countries are readily available, they are not comprehensive enough and there are difficulties in comparing them across countries. Secondly, the method of national accounting for socialist countries is different from that for non-socialist countries: the national income of socialist countries does not include non-productive services. Thirdly, the data available on national products of socialist countries were net of depreciation; for non-socialist countries the data on net national income, rather than gross national income, was used for consistency.

Table A .2.9

The percentage share of state expenditures in net national income of some developing countries (1972)

E = Expenditure; G_c = Central Government; $G = G_c$ + public enterprises & corporations; $S = G_c$ + local Government; X_m = Value of the main export item; N.N.I. = Net national income.

	E = N.N.I.			X_m^2 : N.N.I.		E = N.N.I.			X_m : N.N.I.
	G_c	G	S ¹			G_c	G	S	
Oil:					Other minerals:				
Iran	39.5	53.1	53.9	17.6	Sierra Leon(1969)	13.1			18.1
Saudi Arabia(1971/72)	52.4	52.4	55.2	83.9	South Africa ⁶		27.5		1.7
Venezuela	24.4	34	38.3	29.3	Bolivia ^{7,8}		14.2		13.5
Kuwait (1971/72)	30.5	34.2	35.1	78.2	Crops				
Libya ³		52.3	55.1	55.8	Malaysia ⁴	29.9	35.1	39.1	11.2
Algeria ⁴	28.2	55.1	60	18.3	Brazil		15.4		2.1
Iraq	29.4			44	Colombia		13.9		4.6
average	34.1	46.7	49.4	46.4	Tanzania (1971/72)	22.7			
Copper:					Egypt ⁷	37	47		5.7
Chile (1971)		32.4		7.6	Turkey ⁵	21.7			1.1
Peru ⁴		16.4		2.4	Sri Lanka ⁷		33.6		8.6
Zambia ⁴	35.6	42.8		36.5	Others				
Zaire ⁵ (1970)	28.6			19.4	South Korea		22.4		
average	32.1	30.5		16.5	Israel		58.5	58.5	6.1

1. The ratio of expenditure of local Government to N.N.I. of Saudi Arabia and Libya is estimated by this author; it is assumed to be as high as that of the average for Iran, Kuwait, Algeria, and Venezuela which is 2.8 per cent.
2. Those of the oil exporting countries are the ratio of oil revenues to N.N.I.
3. Government expenditures exclude loans and grants to Arab countries.
4. The ratios to GDP.
5. G_c include the social security expenditures.
6. The data on N.N.I. includes that of Namibia; G is the consolidated figures of the Exchequer and the Paymaster General.
7. The ratio to GNP.
8. The figure on export was converted from dollar to peso, \$1 = 13.32 peso.

Sources: Iran: as Table 4.5 ; others are as follows. N.I.: oil exporting countries: I.F.S., Oct. 1974, Zambia and Malaysia I.F.S., Oct. 1975, others UN Stat. Y.B. 1973, Table 175. State expenditures: Venezuela: Banco Central de Venezuela. Informe Economico, 1973, Table A-v-1,2 and A-v-33, p. 17 and 46; Malaysia: Economic Report 1972-73 (Kuala Lumpur, the Treasury, 1972), p. 134, 150-3; Algeria: MEES, 5 March 1976, p. i and MERIP No. 35, p. 13; Saudi Arabia: Saudi Arabian Monetary Agency, Stat. Summary 1976/7, p. 42, p. 49, Kuwait, MEED, No. 27, June 1975, p. 28; Iraq, MEED, 7 Feb. 1975, p. 5; Zambia,

/contd....

Sources contd.

UN Economic Commission for Africa, Summary of Economic Data (1972), No. 11, Series M.73-2501, p. 21; Egypt, Ibid., No. 43, Series 30041, p. 24; Sierra Leone and Tanzania, I.F.S., Jan. 1973, Chile, Colombia and South Korea: UN Stat. Y.B. 1973, Table 19; others, I.F.S., Oct. 1974. Exports: I.F.S., op. cit., except for Saudi Arabia which is based on Stat. summary, ibid., p. 61.

Table A.2.10

The percentage share of state expenditure in national income of a few OECD countries (1972)

E/N.I. ¹			E/N.I.		
<u>Countries:</u>	G	S	<u>Countries:</u>	G	S
UK ²	40	48.6	USA	22	43
Sweden ³	30.8	43	France ⁵	22.4	n.a.
West Germany ⁴	26	47.2	Average ⁶	29.7	46.3

1. For abbreviations see Table A.2.9.

2. G includes net results of financially integrated Government enterprises; it excludes nationalised industries.

3. Projected for 1975.

4. G also includes Local Governments.

5. G does not include public enterprises.

6. Excludes France.

Sources: Based on UN Stat. Y.B., 1973, Tables 175 and 177, except for Sweden which is based on The Swedish Budget 1975/76, A Summary (Stockholm, Ministry of Finance, 1975), p. 131.

Table A.2.11

The percentage share of state expenditure (E) in net material products (N.M.P.) of some socialist countries (1972)

<u>Countries:</u>	<u>E/N.M.P.</u>
Hungary	66.4
Czechoslovakia	65.3
Bulgaria	57.9
Poland	45.7
USSR	55.3
Average	58.1

Sources: UN, op. cit., Table 191.

Notes on:

Unexpected changes in oil revenues, taxes and deficit financing

During 1963-64 and 1971-74 oil revenues increased faster than predicted. Over 1963-64 the annual average rate of growth of oil revenues was 28.2 per cent (Table A.2.12) against the planned rate of 10 per cent.¹ Over 1965-70 and 1975-76 the need for extra means of finance, over the planned figure, was felt for one of the following reasons, or a combination of both: the oil revenues did not increase as rapidly as planned; expenditures increased much faster than planned. Between 1965-67 the average annual rate of growth of oil revenues was 4 per cent against the planned rate of 10 per cent. During 1968-70, the first three years of the Fourth plan, the actual and the planned average annual rates of growth of oil revenues were 16.5 per cent (Table A.2.12) and 19 per cent respectively.² In this period the average annual rate of growth of Government payments was also higher than the planned figure; the average annual rate was 25.1 per cent, greater than the corresponding figure of 24.8 per cent for the period of the plan.³ Moreover, we know that the total payments were greater than the planned figure by over 31 per cent (Table A.2.3). The unpredicted shortfall in oil revenues over the Fifth plan took place merely in the last three years of the plan i.e. 1975-77. On the basis of Table A.2.4 and the fact that the revised version of the Fifth plan was drafted at the end of 1974, the planned oil revenues for 1975-77 amounted to Rl. 511.9 b.⁴ Actual oil revenues received over the same period were Rl. 4073.0 b.⁵

1. Based on the Outline of the Third Plan, as Table A.2.3.

2. Based on the Fourth Plan, as Table A.2.3.

3. Based on the same source as Table A.2.12.

4. The planned figure for 1973-77 minus the actual figure for 1973-74.

5. Based on Table A.2.2.

Table A.2.12

The average annual rates of growth of some components of Government Budget over various periods (current prices)

	<u>1963-65</u>	<u>1966-67</u>	<u>1968-70</u>	<u>1971-74</u>	<u>1975-77</u>
Oil revenues	28.2	4	16.5	93.7	7.5
Taxes ¹	16.7	17	23	14.7	38.4
Payments	11.7	16.6	25.1	53.9	18.5
Gross deficits	8	72	41.2	8	60.1

1. Excludes custom revenues and profit taxes on state corporations.

Sources: Tables A.2.2 and A.2.16.

The above table also indicates that though the unexpected slow growth of oil revenues caused increases in the growth of both taxes and deficit financing, the latter was increased much faster than the former over both periods, 1966-70 and 1975-77. In the latter period taxes also declined in relation to non-oil GDP (see Chart 7.1).

Table A.2.13

Current expenditures¹ of the Ministry of Education of Iran for various provinces in 1975/76

Province	Expenditure Rl. 1000	Population 1000	Per capita expenditure Rl.
Central province { Tehran	10666	4496	2372.3
Others	3961	2425	1633.2
Total	14627	6921	2113.3
Gilan	2219	1578	1466.5
Mazandaran	2830	2384	1187.1
Eastern Azarbaijan	2879	3195	901
Western Azarbaijan	1568	1405	116.2
Kermanshahan	1266	1017	1246.1
Khoozestan	3694	2177	589.2
Fars	2884	2021	1427.2
Kerman	1484	1088	733.2
Khorassan	3596	3267	1360.9
Isfahan	2747	1975	1390.6
Sisstan & Baloochestan	725	659	1099.1
Kordestan	727	782	929.5
Semnan	471	486	970
Hammadan	908	1087	835
Lorestan	862	925	931.5
Booshehr	493	345	1425.9
Saheli	556	463	1200.2
Chahar Mahal & Bakhtiary	350	394	888.2
Yazd	627	356	1758.8
Ilam	206	244	435.3
Kohkilooyeh	241	245	983.3
Zanjan	355	579	613.9
Total	46315	33592	1378.7
Total excluding Tehran	35648	29093	1225

1. Excludes expenditures of the 'nutrition project'.

Source: Vezaratē Amuzesh va Parvaresh, "Amarē Amuzesh va Parvaresh, 1975-76", Teh. 1976, Table 22; and 5% Sample of 1976 Census.

Table A.2.14

Components of public consumption in current prices

Year	Defence (Rl.b.)				Total public goods* (Rl.b.)
	Goods	Services	Total	Imported materials	
1962	4.6	5.7	10.3	n.a.	7.5
1963	4.5	7.4	11.9	n.a.	7.3
1964	5.3	8.1	13.4	0.5	9.2
1965	9	10.5	19.5	2.5	15.2
1966	12.6	11.1	23.7	4.0	19.5
1967	19	12	31	6.6	27
1968	24	13.9	37.9	9.5	32.2
1969	30.7	16.5	47.2	13.2	43.2
1970	37.3	19.7	57	17	50
1971	63.2	22.1	85.3	33.9	79.4
1972	88	28.7	116.7	45.1	112.1
1973	136.5	41.3	177.8	68.1	158.3
1974	270	68	338	179.4	351.7
1975	357.5	79.5	437	250.7	461.9
1976	n.a.	n.a.	n.a.	253.4	523.6
1977	n.a.	n.a.	n.a.	n.a.	486.1

* The difference between public consumption and value added in services.

Sources: B.M.I. National Accounting Department; except the last column which is based on Tables A.4.1 and A.4.3.

Table A.2.15

Total long-term foreign loans in the State Budget in 1968-72 and 1976-77 (Rl.b.)

	1968	1969	1970	1971	1972	1976	1977
1. Central Gov.	21.2	22.5	28.1	28.3	25.8	25.4	29.4
2. P.E. & Cor*	5.5	4.8	1.9	3.6	9.5	64.7	75.8
3. Total loans	26.7	27.3	30	31.9	35.3	90.1	105.2
4. (2) as a % share of total	79.4	82.4	93.7	88.7	34.9	28.1	27.9

* Public Enterprises and Public Corporations.

Sources: Table A.2.2 and the relevant Budget Acts, summary tables.

Table A.2.16

Corporation taxes on public enterprises, and investment outlays included in the ordinary budget (1962-77)

	Corporation tax on public enterprises Rl.b.	Investment included in the ordinary budget Rl.b.
1962	0.7	1.1
1963	1.2	1.1
1964	0.9	0.7
1965	1.7	1.3
1966	1.6	1.7
1967	1.9	2.6
1968	3.1	3.1
1969	6.6	3
1970	7.9	3.7
1971	8.7	-
1972	11.4	-
1973	17.1	-
1974	28.8	-
1975	93.2	-
1976	99.4	-
1977	107	-

Sources: As A.2.2.

Table A .2.17

Government current expenditures on defence and social services, and GDP in various LDCs in 1975 (million local currency)

E: Education; H: Health; O: Others; G_C: Government consumption.

	Defence	Social services				G _C	GDP
		E	H	O	Total		
Algeria	1296	2025	53	392	2470	5483 ^a	56786
Libya	757.1 ^b	132	65.1	40	237.1	1044.2	3696.5
Saudi Arabia	9273	1621	525	508	2654	15910	134210
Venezuela	2259	4777	2154	1776	8707	15943	59740
Gabon ^c	1138	2040	1259	550	3849	19217	108500
Cyprus	7.1	8.9	5.1	6.6	20.6	47	252.1
Fiji	1	16	9	2	27	68	536
Botswana ^d	n.a.	3.3	3	0.1	6.7	37	103.6
Ghana ^c	n.a.	140	41	35	216	569	2815
Honduras	43	77	46	11	134	278	2112
India	25.8	6.1	3.6	3	12.7	61.3	729.5
Israel	25968	2830	910	1436	5178	33819	62076
Jordan	48.3	14.2	4.8	n.a.	n.a.	117.2	306.5
Kenya ^d	19.3	55.5	21.5	n.a.	n.a.	176.5	1018.3
Korean Rep. ^c	166	8.5	2.1	10.1	20.7	262.3	3875
Malaysia ^e	555	460	160	86	706	1966	10936
Pakistan	9761 ^b	1435	975 ^f			13912	130051
Panama	88 ^b	83	75	2.7	160.7	291.8	1934.2
Papua New Guinea ^c	20.1	40.8	20.7	7.4	68.9	228	788.8
Sierra Leone ^d	6.31	18.96	8.01	6.3	33.27	121.32	572.7
Southern Rhodesia ^{b,d}	103.5	86.5	20.9	20.7	128.1	211.6	1845.7
Sri Lanka ^g	392.8	782	406.4	470.8	1659.2	2924.6	26488.3
Sudan ^e	n.a.	28.2	14.7	27.1	70	141	832.4
Thailand	8281	7820	1623	4899	14342	30963	203751
Turkey ^c	8046.5	8219.3	3174	4534.2	15927.5	31994.2	232115
Tanzania	730	757	426	252	1435	6188	18905
Zambia ^{b,c}	93.6	53.4	19.1	9	81.5	218.2	1335.2

a. Central Government only; b. Includes General Public Services; c. 1972; d. 1974; e. 1971; f. Includes social security and welfare; g. 1976.

Sources: Expenditures: U.N. Yearbook of National Accounting, 1977, Vol. 1, tables 4.b and 7.a under relevant countries.

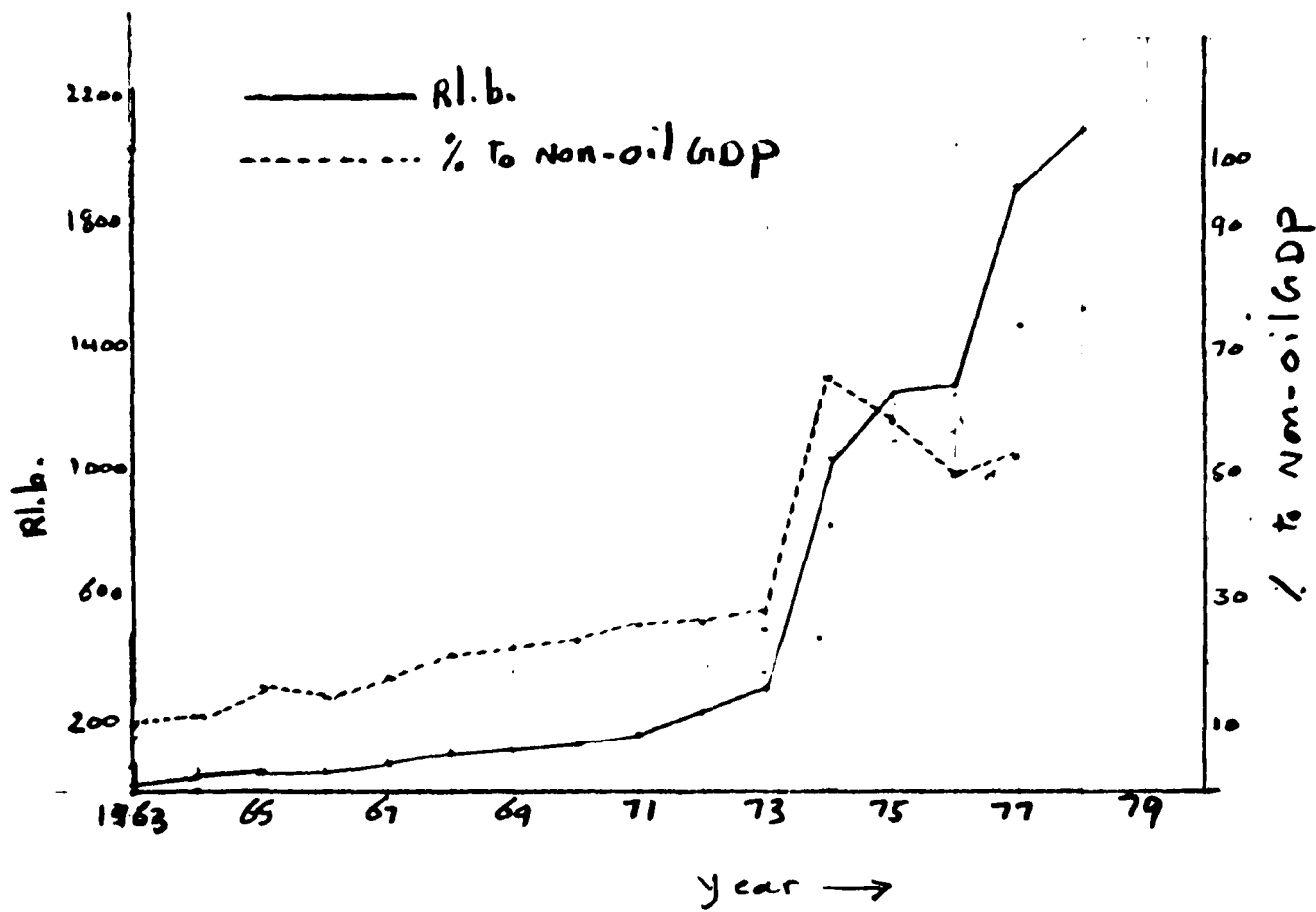


Chart A.2.1 Net injections of funds by the Central Government

Sources: Tables A.2.5, A.4.1 and A.4.3.

A.3 Oil

Table A.3.1

Production of crude oil and oil products in 1962, 1970, 1972, 1977

	<u>1962</u>		<u>1970</u>		<u>1972</u>		<u>1977</u>	
	Volume 1000 b.d.	%	Volume 1000 b.d.	%	Volume 1000 b.d.	%	Volume 1000 b.d.	%
1. Production of crude ¹	<u>1361.3</u>	<u>100</u>	<u>3857.2</u>	<u>100</u>	<u>5383.7</u>	<u>100</u>	<u>5586.3</u>	<u>100</u>
2. Exported	<u>957.4</u>	<u>70.3</u>	<u>3308</u>	<u>85.8</u>	<u>4822.3</u>	<u>89.6</u>	<u>4816.4</u>	<u>86.2</u>
3. Refined	<u>403.9</u>	<u>29.7</u>	<u>549.2</u>	<u>14.2</u>	<u>561.4</u>	<u>10.4</u>	<u>769.9</u>	<u>13.8</u>
4. For export	(315.4)	(23.2)	(364.3)	(9.4)	(302.2)	(5.6)	(141.3)	(2.5)
5. For domestic use	(88.9)	(6.5)	(184.9)	(4.8)	(259.2)	(4.8)	(642.7)	(11.5)

1. Net of crude returned to the oil wells.

Sources: 1962, 1970: NIOC; 1972, 1977: B.M.I. An. Rep. 1977, pp. 182-7.

Table A .3.2

Workers employed by the oil industry in large oil exporting countries in 1972

	<u>1000 persons</u>			<u>Share of oil in GDP</u>
	<u>Employed</u>	<u>EAP</u> ¹	<u>%</u>	
	(1)	(2)	(1):(2)	
Iran	40.8	7369	0.55	26.1
Venezuela	23	3238	0.71	15.3
Saudi Arabia	14.7	2109	0.69	45.3 ²

1. Economically Active Population.

2. 1391/92 (1971/72).

Sources: Iran: Table 5.4 and M.A.I. Manpower Survey,1972, Series No. 357 (Teh. 1974); Venezuela: Vallenilla (1975), p. 869, UN Econ. Survey of L.A. 1972, and Stat. Abstract of L.A. (Un. of California 1972), p. 110; S.A.: Saudi Arabian Monetary Agency Stat. Summary, 1977, Second Issue, pp. 66-7 and MEED, 5 Dec. 1976, The Stat. Appendix.

Table A.3.3

Production sharing method in 1973 Iran-Consortium Agreement (1000 b/d)

Year	Sales to the Consortium	Local Consumption	NIOC Exports	Total Export	Total Production
1973*	4833	284	200	5033	5317
1974	5074	304	300	5374	5678
1975	5515	352	450	5965	6317
1976	5959	388	600	6559	6947
1977	6422	428	750	7172	7600
1978	6237	463	900	7137	7600
1979	5764	550	1300	7064	7614
1980	5764	550	1300	7064	7614
1981	5498	602	1500	6998	7600
1982	5445	655	1500	6945	7600
1983	5390	710	1500	6890	7600
1984	5342	771	1500	6842	7613
1985	4060	851	1500	5560	6411
1986	2970	929	1500	4470	5399
1987	2027	1010	1500	3527	4537
1988	1364	1090	1259	2623	3713
1989	1058	1171	1251	2309	3480
1990	704	1251	704	1405	2659
1991	441	1329	441	882	2211
1992	211	1410	210	421	1831
1993	8	1490	8	16	1506

* For the period 21 March - 31 December 1973.

Source: Arab Oil and Gas Directory, 1974, p. 79 based on the text of the agreement.

A.4 National Income and Expenditure

Note:

The method of estimation of some items of national income and expenditure seems to have been changed recently. Though the revised data for 1972-77 were available, we did not have access to those of the previous period. Hence, the earlier estimate for 1972, which marks the last year of the 4th plan, is reported in the tables covering 1962-72, to maintain consistency over that period.

Table A.4.1

Gross national product at current prices, 1962-72 (Rl.b.)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Agriculture	96.9	98.4	110.6	120	121.7	128.4	139.6	147.8	160.6	172.7	201.8
Industrial group:	58.1	65.3	72.8	86.1	95.5	111.8	130.3	150.3	168.1	199.1	247.2
Manufacturing and mining	41.8	45.4	50.3	57.6	66.4	76	88.2	100.5	113.7	138.1	171.5
Construction	13.8	15.6	17.6	23.5	23	28.4	33.1	38.6	41	45.1	58.4
Water and electricity	2.5	4.3	4.9	5	6.1	7.4	9	11.2	13.4	15.9	17.3
Services:	129.9	137	156	178.3	195.3	211.5	243.2	273.2	314.7	364.5	477.2
Transport and communication	29.9	27.9	28.2	31.2	32.7	33.3	36.2	38.7	43.1	45.6	55.1
Banking, insurance and brokerage	8.3	9.1	11	12.4	14	16.6	22.2	28.4	36.6	42.9	54.1
Trade	27.2	28.5	34.5	38.2	43.1	47.6	52.1	58	64.2	74.9	90.7
Ownership of dwellings	21.1	22.1	23.5	25.2	27.5	29.9	32.6	35.5	39.7	45.5	83.8
Public services	27.9	33	40.7	50.7	55.3	58.9	69	78	91.7	110	140.5
Private services	15.5	16.4	18.1	20.6	22.7	25.2	31.1	34.6	39.4	45.6	53
Non-oil GDP at factor cost	284.9	300.7	339.4	384.4	412.5	451.7	513.1	571.3	643.4	736.3	926.2
Oil ¹	46.1	49.6	56.7	65.3	74.6	86.3	100.1	119.4	140.7	212.6	264
GDP at factor costs ²	331	350.3	396.1	449.7	487.1	538	613.2	690.7	784.1	948.9	1190.2
Net factor income from abroad	-10.7	-12.4	-14.2	-20	-18	-20.6	-28.9	-33.9	-39.6	-46.1	-36.9
Net indirect taxes	20.2	22.8	23.9	28.3	35.5	39.1	45.6	51.2	57.4	65.4	78.2
GNP at market prices	340.5	360.7	405.8	458.2	504.6	556.5	629.9	708	801.9	968.2	1231.5

Table A.4.2

Gross national product at constant 1974 prices 1962-72 (Rl.b.)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Agriculture	185.3	186.9	191.3	205.3	211.8	228.2	246.1	253.3	264.7	256.9	271
Industrial group:	108.8	122.7	128.9	154.4	168.3	195	217.2	233.7	254.3	290.7	333.4
Manufacturing and mining	66.6	72.6	76	86.5	101.2	116.4	133.7	147	163.1	190.5	224.8
Construction	40.2	46.6	48.9	63.3	61	71.2	74.7	75.8	78.1	83.5	91.4
Water and electricity	2	3.5	4	4.6	6.1	7.4	8.8	10.9	13.1	16.7	17.2
Services:	201.3	211.9	239.7	272.4	396.9	325.7	367.5	412.1	468.6	529.7	629.4
Transport and communication	37.7	38.5	39.8	41.7	43	47.7	46.6	50	55.5	57.8	65.1
Banking, insurance and brokerage	14.7	15	18.1	20.5	23.1	27.4	36.6	48.9	60.5	70.8	71.1
Trade	48.1	49.4	55.8	61.5	69	76.8	83.1	89.7	97.5	107.5	123.7
Ownership of dwellings	29.3	31.2	33.7	36.5	39.7	42.9	46.2	49.9	53.7	52.9	99.3
Public services	49.2	54.5	67.2	83.7	91.2	97.1	113.9	128.7	151.3	184.3	307.8
Private services	22.3	23.3	25.1	28.5	30.9	33.8	41.1	44.9	50.2	56.4	62.4
Non-oil GDP	495.3	521.5	559.9	632.1	677	748.9	830.8	899.1	987.6	1077.3	1233.8
Oil ¹	365.9	390.6	429.5	514.2	582.8	658.8	764.1	918.5	1057.0	1168.1	1333.3
GDP ²	861.2	912.1	989.4	1146.3	1259.8	1407.7	1594.9	1817.6	2045.5	2345.4	2567.1
Net factor income from abroad	67.2	-75.4	-82.4	-104.9	109.9	124	-152.1	-181.4	-200.9	-179.5	-152
Net direct tax	31.3	31.8	36	40.2	45.1	49.6	54.5	58.2	63.3	69.4	64.4
GNP at market prices	825.3	868.5	943	1081.6	1195	1333.3	1497.3	1694.4	1907.9	2135.3	2479.5
Terms of trade adjustments	-245.7	-271.6	-303	-357.1	-407	-472	-532.1	-647.3	-734.4	-777.7	-884.8
Gross national income	579.6	596.9	640	724.5	788	861.3	965.2	1047.1	1173.5	1357.9	1594.7

Table A.4.3

Gross national product at current prices, 1972-77 (Rl.b.)

	1972	1973	1974	1975	1976	1977
Agriculture	201.8	234.4	303.3	333.9	426.3	485.0
Industrial group:	247.2	332.4	436.8	617.8	887.2	1170.7
Manufacturing and mining	(171.5)	(231.9)	(312.9)	(379.5)	(496.0)	(638.1)
Construction	(58.4)	(78.9)	(98.2)	(208.3)	(356.9)	(494.8)
Water and electricity	(17.3)	(21.6)	(35.7)	(30.0)	(34.3)	(37.8)
Services:	477.2	629.3	890.2	1151.5	1488.7	1894.1
Transportation and communication	(55.1)	(77.9)	(99.2)	(138.0)	(159.2)	(204.5)
Banking, insurance and brokerage	(54.1)	(85.9)	(137.2)	(202.1)	(265.9)	(359.2)
Trade	(90.7)	(116.1)	(159.8)	(199.6)	(252.6)	(299.9)
Ownership of dwellings	(83.8)	(115.5)	(133.1)	(164.5)	(209.9)	(281.5)
Public services	(140.5)	(167.1)	(276.6)	(345.5)	(480.0)	(587.7)
Private services	(50.0)	(66.8)	(84.3)	(101.8)	(121.1)	(161.3)
Non-oil GDP	926.2	1196.1	1630.3	2103.2	2802.2	3549.8
Oil ¹	264.0	587.5	1441.6	1375.8	1687.1	1658.0
GDP at factor cost ²	1190.2	1783.6	3071.9	3479.0	4480.3	5207.8
Net factor income from abroad	-36.9	-35.0	-13.0	-42.3	-35.1	-45.7
Net indirect taxes	78.2	85.0	65.1	82.1	126.3	185.5
GNP at market prices	1231.5	1832.7	3124.0	3518.8	4571.5	5347.6

1. National value added.

2. Includes national, not domestic, value added in oil.

Source: B.M.I., An. Rep., 1977, pp. 92-93.

Table A.4.4

Gross national product at constant 1974 prices, 1972-77 (Rl.b.)

	1972	1973	1974	1975	1976	1977
Agriculture	271.0	286.5	303.3	324.0	341.7	339.0
Industrial group	333.4	387.7	436.8	532.5	630.4	684.3
Manufacturing and mining	(224.8)	(264.4)	(312.9)	(360.9)	(423.0)	(468.2)
Construction	(91.4)	(101.7)	(98.2)	(141.6)	(174.0)	(179.5)
Water and electricity	(17.2)	(21.6)	(25.7)	(330.0)	(33.4)	(36.6)
Services:	629.4	749.6	889.1	1029.1	1173.2	1281.3
Transportation and communication	(65.1)	(81.8)	(99.2)	(131.9)	(146.3)	(153.8)
Banking, insurance and brokerage	(71.1)	(103.2)	(137.2)	(172.7)	(194.9)	(208.7)
Trade	(123.7)	(141.8)	(159.8)	(188.2)	(213.7)	(228.6)
Ownership of dwellings	(99.3)	(124.6)	(133.1)	(143.5)	(155.5)	(168.4)
Public services	(207.8)	(225.8)	(276.6)	(295.3)	(351.9)	(402.3)
Private services	(62.4)	(72.4)	(84.3)	(97.3)	(110.9)	(119.5)
Non-oil GDP	1233.8	1423.8	1630.3	1885.6	2145.3	2304.2
Oil ¹	1333.3	1450.6	1441.6	1264.5	1384.6	1284.9
GDP at factor cost ²	2567.1	2874.4	3071.9	3150.1	3529.9	3589.1
Net factor income from abroad	-35.5	-35.6	-13.0	-38.6	-24.3	-7.1
Net indirect taxes	104.1	101.2	65.1	73.6	96.7	120.4
GNP at market prices	2635.7	2940.0	3124.0	3185.1	3602.3	3702.4
Compensation for valuation of the terms of trade	-884.1	-586.9	0	-39.6	97.0	137.1
Gross National Income	1751.6	2353.1	3124.0	3145.5	3699.3	3839.5

1. National value added.

2. Includes national, not domestic, value added in oil.

Source: B.M.I., An. Rep., 1977, pp. 94-95.

Table A.4.5

Annual average rates of growth of components of non-oil GDP at factor cost and constant prices¹ over various plan periods

T = Target. A = Actual. O = Original. R = Revised.

	3rd plan		4th plan		5th plan		
	T	A	T	A	T		A
					O	R	
Agriculture	4.0	4.2	4.4	3.5	5.5	7	4.6
Industry & mining		12.3	12.4	11.3	15	18	15.5
Manufacturing & mining		11.8	13.1	14.7	15.3	21	15.8
Construction		12.1	9.9	5.1	13	n.a.	14.4
Water & electricity		29.9	16.8	18.5	20.7	31 ²	16.3
Services		10.1	7.5	14.1	11.5	16.4	15.3
Gov. services		14.5		16.4			14.1
Non-oil GDP	6.3	8.6	8.1	10.5	11.3	15	13.3

1. 1974 prices.
2. Only electricity.

Sources: Planned figures are based on: Outline of the Third Plan, p. 44, 59, 74; the 4th Plan, p. 44; 5th plan, A Summary, p. 5, 50, 60; 5th plan revised, A Summary, pp. 14-16, p. 110, 125. Actual figures: based on Table A.4.4.

Table A.4.6

Gross national expenditures at current prices, 1962-72 (Rl.b.)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Private consumer expenditures	260.5	265.8	299.8	320.4	355.3	373.9	427.2	470.7	537.3	566.9	676.9
Urban areas	140.4	145.9	164.0	174.0	206.1	218.4	267.4	315.8	372.3	395.1	495.5
Rural areas	120.1	119.9	135.8	146.4	149.2	155.5	159.8	154.9	165.0	171.8	181.4
Public consumption	35.4	40.3	49.9	65.9	74.8	85.9	101.2	121.2	141.6	189.4	252.6
Gross domestic fixed capital formation	47.4	51.5	63.2	85.5	90.0	119.3	136.5	156.4	167.3	216.7	287.4
Machinery	14.8	13.8	20.3	26.3	32.3	46.9	51.3	57.7	62.2	82.1	112.9
Private sector	11.2	11.3	16.2	16.5	20.3	29.8	26.3	25.0	29.4	46.2	77.7
Public sector	3.6	2.5	4.1	9.8	12.0	17.1	25.0	32.7	32.8	35.9	35.2
Construction	32.6	37.7	42.9	59.2	57.7	72.4	85.2	98.7	105.1	134.6	174.5
Private sector	19.0	19.8	24.4	28.5	30.2	31.9	34.1	36.6	37.3	49.0	66.3
Public sector	13.6	17.9	18.5	30.7	27.5	40.5	51.1	62.1	67.8	85.6	108.2
Net exports	+7.9	+15.5	+7.1	+6.4	+2.5	-2.0	-6.1	-6.4	-4.7	+41.3	+47.5
GDP at marked price	351.2	373.1	420.0	478.2	522.6	577.1	658.8	741.9	841.5	1014.3	1264.4
Net factor income from abroad	-10.7	-12.4	-14.2	-20.0	-18.0	-20.6	-28.9	-33.9	-39.6	-46.1	-36.9
GNP at marked price	340.5	360.7	405.8	458.2	504.6	556.5	629.9	708.0	801.9	968.2	1231.5
National income ¹	298.9	315.3	356.5	400.8	437.7	483.0	545.2	613.2	695.4	846.7	1089.4
National savings ²	44.6	54.6	56.1	71.9	74.5	96.7	101.5	116.1	123.0	211.9	305.5

1. GDP at marked prices minus indirect tax and depreciation.

2. The sum of gross domestic fixed capital formation, net exports and net factor income from abroad.

Table A.4.7

Gross national expenditures at constant (1974) prices, 1962-1972 (Rl.b.)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Private consumer expenditures	429.2	433.6	468.4	499.1	549.1	573.5	645.3	686.2	774.2	773.4	867.9
Urban areas	231.3	238	256.2	271	318.5	335	403.9	460.4	536.4	531	635.3
Rural areas	197.9	195.6	212.2	228.1	230.6	238.5	241.4	225.8	237.8	234.4	232.9
Public consumption	62	67	81.4	105.9	119.8	136.1	159	187.6	216	277.1	364.2
Gross domestic fixed capital formation	97.8	110.5	124	165.8	169.4	215.1	238.7	247.9	261.9	331.8	411.2
Machinery	21.7	19.7	28.9	36.9	45	64.1	69.9	76.5	80.2	101.1	140.1
Private sector	16.4	16.1	23	23	28.3	40.7	35.8	33	39.6	53.9	96.4
Public sector	5.3	3.6	5.9	13.9	16.7	23.4	34.1	43.5	40.6	47.2	43.7
Construction	76.1	90.8	95.1	128.9	124.4	151	168.8	171.4	181.7	230.7	271.1
Private sector	44.3	47.8	54.1	62	65	66.7	67.4	63.8	64.7	83.4	103
Public sector	31.8	43	41	66.9	59.4	84.3	101.4	107.6	117	147.3	168.1
Net exports	+261.8	+302.1	+315.9	+369.2	+413	+467.5	+522.6	+633.5	+726.9	+845.9	+960.6
GDP	850.8	913.2	989.7	1140	1251.3	1392.2	1565.6	1755.2	1979	2228.2	2603.9
Net factor income from abroad	-67.2	-75.4	-82.4	-104.9	-109.9	-124	-152.1	-181.4	-200.9	-179.5	-152
Terms of trade adjustment	-245.7	-271.6	-303	-357.1	-407	-472	-532.1	-647.3	-734.4	-777.7	-884.8
Statistical error	+41.7	+30.7	+35.7	+46.5	+53.6	+65.1	+83.8	+120.6	+129.8	+86.6	+27.6
GNP = GNE	579.6	596.9	640	724.5	788	861.3	965.2	1047.1	1173.5	1357.6	1594.7
National income ¹	511.4	526.4	562.3	637.2	692.4	755.8	848.7	921.9	1036.6	1207.9	1437.8
National savings ²	88.4	96.3	90.2	119.5	119.1	151.7	160.9	173.3	183.3	307.1	362.6

1. GDP at marked price minus indirect tax and depreciation.

Table A.4.8

Gross national expenditures, 1972-1977 (Rl.b.)

	1972	1973	1974	1975	1976	1977
Current prices						
Private consumer expenditures	686.6	879.7	1127.8	1316.0	1532.5	2160.8
Public consumption	252.6	325.4	628.3	807.4	1003.6	1073.8
Gross domestic fixed capital formation	287.4	363.3	562.0	1065.6	1477.9	1831.9
A. Machinery	112.9	140.1	220.8	464.6	574.3	639.7
B. Construction	174.5	223.2	341.2	601.0	903.6	1192.2
Net exports of goods and services (factor and non-factor)	4.9	264.3	805.9	329.8	557.5	281.1
Gross National Expenditure or Gross National Income	1231.5	1832.7	3124.0	3518.8	4571.5	5347.6
National Income*	1088.5	1664	2944.8	3289.5	4249	4913.6
National Savings**	292.3	627.6	1367.9	1395.4	2035.4	2113.0
Constant 1974 prices						
Private consumer expenditures	880.3	1014.6	1127.8	1207.3	1242.9	1422.5
Public consumption	354.2	427.9	628.3	722.5	796.0	786.0
Gross domestic fixed capital formation	410.5	456.6	562.0	923.6	1114.4	1152.6
A. Machinery	139.4	170.9	220.8	400.9	471.9	493.0
B. Construction	271.1	285.7	341.2	522.7	642.5	659.6
Net exports of goods and services (factor and non-factor)	913.8	975.3	805.9	335.6	394.2	129.8
Terms of trade adjustment	-884.1	-586.9	0	-39.6	97.0	137.1
Statistical discrepancies	66.9	65.6	0	-3.9	54.8	211.5
Gross National Expenditure or Gross National Income	1751.6	2353.1	3124.0	3145.5	3699.3	3839.5
National Income*	1561.1	2152.2	2944.8	2939.9	3452.4	3557.8
National Savings**	507.1	910.6	1367.9	1215.7	1660.4	1631.0

* Gross national income minus depreciation.

** The sum of gross domestic fixed capital formation and net exports of goods and services.

Sources: B.M.I., An. Rep., 1977, pp. 96-97.

Table A .4.9

Gross domestic fixed capital formation, 1972-77 (Rl.b.)

	1972	1973	1974	1975	1976	1977
	Current prices					
Private sector	144.0	160.4	225.2	521.6	663.0	776.8
Machinery	(77.7)	(83.1)	(112.1)	(331.5)	(335.2)	(353.0)
Construction	(66.3)	(77.3)	(113.1)	(190.1)	(307.8)	(423.8)
Public sector	143.4	202.9	336.8	544.0	814.9	1055.1
Machinery	(35.2)	(57.0)	(108.7)	(133.1)	(219.1)	(286.7)
Construction	(108.2)	(145.9)	(228.1)	(410.9)	(595.8)	(768.4)
Gross domestic fixed capital formation	287.4	363.3	562.0	1065.6	1477.9	1831.9
	Constant 1974 prices					
Private sector	198.9	200.3	225.2	451.4	509.8	505.4
Machinery	(95.9)	(101.4)	(112.1)	(286.1)	(291.9)	(272.1)
Construction	(103.0)	(98.9)	(113.1)	(165.3)	(217.9)	(233.3)
Public sector	211.6	256.3	336.8	472.2	604.6	647.2
Machinery	(43.5)	(69.5)	(108.7)	(114.8)	(180.0)	(220.9)
Construction	(168.1)	(186.8)	(228.1)	(357.4)	(424.6)	(426.3)
Gross domestic fixed capital formation	410.5	456.6	562.0	923.6	1114.4	1152.6

Source: B.M.I., An. Rep., 1977, p. 98.

Table A.4.10

Urban rural distribution of private consumer expenditures (1971-76)

	Rl.b.			
	1973	1974	1975	1976
1. Urban	650.8	867.8	1085.4	1385.9
2. Rural	225.1	298.6	326	414
3. Total	875.9	1166.4	1411.4	1799.9
4. Discrepancies ¹	3.8	-38.6	-95	-267.4
5. Private consumption	879.7	1127.8	1316.4	1532.5

1. Discrepancies result from the revision in the data on private consumption; we did not have access to the revised figure on urban and rural items.

Source: Rows 1-3, B.M.I.; Row 5, Table A.4.6.

A.5 Trade and Balance of Payments

Note:

The Central Bank of Iran keeps two accounts on foreign trade: the 'Balance of Payments'; and the 'Balance of Receipts and Payments'. The former shows the commodity flows within a year, so it includes all imported and exported items traded either in cash or credit. The latter represents the money flows in trade, and covers payments and receipts for exports and imports. Hence it excludes all items of trade which are sold or bought in credit, but it includes pre-payments for imports and receipts for exported items sold in credit in the previous year.

Table A.5.1

Estimates of ratio of imports to domestic expenditures and non-oil GDP to exports (1962-77)

	Imports (M) ¹		Index price of M	M in 1974 price = M*	ΔM^*	E = C + I constant/1974 prices		ΔE	$\Delta M^* : \Delta E$
	£ m.	Rl.b.				Rl.b.	Growth rate		
1962	513.4	38.9	60.5	64.3		569.3	3.5		
1963	533.1	40.4	62.3	64.8	0.5	611.1	3.8	22.1	0.045
1964	740.7	56.1	62.6	89.6	24.8	673.8	10.3	62.7	0.396
1965	915.9	69.4	62.9	110.2	20.6	770.8	14.3	97	0.212
1966	1104.6	83.7	63.5	131.7	21.5	838.3	8.8	67.5	0.318
1967	1363.5	103.2	64.2	160.6	28.9	924.7	10.3	86	0.336
1968	1759.4	133.3	63.9	208.3	47.7	1043	12.8	118.3	0.403
1969	2001.8	151.6	68.1	222	13.7	1121.7	7.6	78.7	0.116
1970	2268.1	171.8	69.4	247.6	25.6	1252.1	11.6	130.4	0.196
1971	2904.9	220	71.7	306.8	59.2	1382.3	10.5	130.2	0.455
1972	3345	249.5	77.9	320.3	13.7	1656.2	19.8	273.9	0.05
1973	5656	386.2	89	433.9	113.6	1899.3	14.7	243.1	0.467
1974	12098	819.8	100	819.8	385.9	2318.1	22.1	418.8	0.921
1975	18474	1292.3	104	1242.6	422.8	2853.4	23.1	535.3	0.790
1976†	19947	1409.1	110.7	1272.9	30.3	3160.3	10.8	306.9	0.99
1977†	24317	1719.5	124.1	1385.6	112.7	3361.1	6.4	200.8	0.561

† The exchange rate is Rl. 75.75 = 1 £ for 1962-71, Rl. 74.58 for 1972, and the rest are the same as Table A.6.6.

1. Current payments for goods and services excluding interest, and including gold (other than monetary gold).

Sources: Imports: Balance of foreign exchange receipts and payments, Table A.5.2 ; price index B.M.I.; others based on Tables A.4.2 and A.4.4.

Table A.5.1 contd

	Non-oil GDP (constant prices) = NG			$\Delta NG :$ ΔM^*	NG - Agriculture = NGA (1974 prices)			$\frac{\Delta NGA}{\Delta M^*}$
	Rl.b.	ΔNG Rl.b.	Growth rate		Rl.b.	Growth rate	ΔNGA	
1962	495.3				310.1			
1963	521.5	26.2	5.3	52.4	334.6	7.9	24.5	49
1964	559.9	38.4	7.4	1.55	368.6	10.1	34	1.37
1965	632.1	72.2	12.9	3.51	426.8	13.8	58.2	2.83
1966	677	44.9	7.1	2.09	465.2	9	38.4	1.79
1967	748.9	71.9	10.6	2.49	520.7	11.9	55.5	1.92
1968	830.8	81.9	10.9	1.72	584.7	12.3	64	1.34
1969	899.1	68.3	8.2	4.99	645.8	10.5	61.1	4.46
1970	987.6	88.5	9.8	3.5	722.9	11.9	77.1	3.01
1971	1077.3	89.7	9.1	1.52	820.4	13.4	97.5	1.65
1972	1233.8	156.5	14.5	11.4	962.8	17.4	142.4	10.4
1973	1423.8	189.7	15.3	1.67	1173.3	18.1	210.5	1.85
1974	1635.3	211.8	14.9	0.549	1332	13.5	158.7	0.412
1975	1885.6	250.3	15.3	0.59	1561.6	17.2	229.6	0.543
1976†	2145.3	259.7	13.8	8.6	1803.6	15.5	242	7.99
1977†	2304.2	158.9	7.4	1.41	1965.2	9	161.6	1.43

A.5 Trade

Table A.5.2

Foreign exchange receipts and payments, 1962-77 (Rl.b.)

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Current Account (net)	42.1	70.7	-57.8	-115.2	-148.4	-212.3	-479.6	-553.5	-675	-281.3
<u>Current Receipts</u>	<u>569.8</u>	<u>618.8</u>	<u>701.4</u>	<u>817.3</u>	<u>940.8</u>	<u>1175.5</u>	<u>1325.1</u>	<u>1518.7</u>	<u>1690.1</u>	<u>2733.5</u>
Oil and gas	437.2	470.8	555.4	607.5	715.8	857.4	758.5	1099	1268.4	2114.1
(gas)	0	0	0	0	0	0	0	0	(6)	(35.8)
Other goods	82.1	96.9	88.8	132	143.8	197.5	208.1	231.3	252.8	328.3
Services	50.5	51.1	57.2	77.8	81.2	120.6	158.5	1884	162.8	225.1
Private sector	(24.5)	(26.9)	(36)	(49.7)	(59.3)	(91.1)	(114.3)	(131.8)	(120.2)	(186.1)
Public sector	(26)	(24.2)	(21.2)	(28.1)	(21.9)	(29.5)	(44.2)	(56.6)	(42.7)	(69)
<u>Current Payments</u>	<u>-527.7</u>	<u>-548.1</u>	<u>-759.2</u>	<u>-932.5</u>	<u>-1089.2</u>	<u>-1387.8</u>	<u>-1804.7</u>	<u>-2072.2</u>	<u>-2365.1</u>	<u>-3014.8</u>
Goods	-438.9	-443.7	-642.7	-791.1	-951.7	-1205.2	-1526.8	-1723	-1980.2	-2567.6
Private sector	(-385.6)	(-377.8)	(-542.1)	(-573.7)	(-676.7)	(-756)	(-868)	(-966.6)	(-1036.7)	(-1220.1)
Public sector	(-53.3)	(-65.9)	(-100.6)	(-217.4)	(-275)	(-449.2)	(-638.8)	(-756.4)	(-856.5)	(-1347.5)
Gold (other than monetary gold)	-0.4	-0.2	-0.3	-0.5	-1.2	-1.8	-2.4	-6.1	-5.9	-2.8
Services	-88.4	-104.2	-116.2	-140.9	-136.3	-180.8	-273.5	-343.1	-379	-444.4
Private sector	(-38.8)	(-44.3)	(-47.5)	(-49.1)	(-69.8)	(-114.1)	(-145.2)	(145.2)	(-176.7)	(-177.1)
Public sector	(-35.3)	(44.9)	(-50.2)	(75.2)	(51.9)	(-42.4)	(-85)	(-70.4)	(-105.3)	(-157.4)
Interest	(-14.3)	(-15)	(-18.5)	(-16.6)	(-14.6)	(-24.3)	(-45.3)	(-127.5)	(-97)	(-109.9)
Capital Account (net)	2.2	-40.1	-45.2	19.4	119.7	214.2	348.1	398.8	413.4	667.8
<u>Capital Receipts</u>										
Gov. utilisation of foreign long-term loans and credits	54.5	14.8	27.6	80.3	146.6	206.9	474.6	536.8	624.1	958.2
Inflow of capital and utilisation of foreign loans by the private sector	2	4.2	2.6	4.8	20.6	17.6	22.1	33	50.2	55.6
<u>Capital Payments</u>										
Repayments of principal of foreign long-term loans by the Gov.	-54.2	-59	-73.2	-61.1	-41	-55.3	-102.9	-155.3	-248.6	-326.5
Repayments of principal of loans by the private sector and outflow of foreign capital	0	0	-2.1	-4.2	-4.4	-3.3	-7.7	-9.5	-9.1	-18.6
Investment abroad	-0.1	-0.1	-0.1	-0.4	-2.1	-1.7	-2	-6.2	-3.2	-0.9
Statistical errors and unrecorded items	-	-	-	2.6	-4.5	-5	-4.2	0	0	-24.4
<u>Basic Balance</u>	<u>44.3</u>	<u>30.6</u>	<u>-103</u>	<u>-93.2</u>	<u>-33.2</u>	<u>-3.1</u>	<u>-99.7</u>	<u>-154.7</u>	<u>-261.6</u>	<u>362.1</u>
Non-recurrent transfers	-14	0	198.4	41	8.8	0	0	83.8	21.8	116.7
<u>Overall Balance</u>	<u>30.3</u>	<u>30.6</u>	<u>90.4</u>	<u>-52.2</u>	<u>-24.4</u>	<u>-3.1</u>	<u>-99.7</u>	<u>-70.9</u>	<u>-239.8</u>	<u>478.8</u>
<u>Change in foreign exchange reserves of the banking system</u>	<u>-30.3</u>	<u>-30.6</u>	<u>-95.4</u>	<u>52.2</u>	<u>24.4</u>	<u>3.1</u>	<u>99.7</u>	<u>70.9</u>	<u>239.8</u>	<u>-478.8</u>

	1972	1973	1974	1975	1976	1977
<u>ent Account (net)</u>	-165	345	8483	2914	4157	1293
<u>ent Receipts</u>	<u>3337</u>	<u>6232</u>	<u>20922</u>	<u>21972</u>	<u>24404</u>	<u>25989</u>
Oil and Gas	2460	4945	18654	19074	20671	20926
Gas	(61)	(87)	(131)	(203)	(183)	(191)
Other goods	403	548	563	447	472	595
Services	474	739	1705	2451	3261	4468
Private sector	(217)	(326)	(598)	(966)	(1383)	(1805)
Public sector	(252)	(350)	(601)	(900)	(1267)	(1894)
Interest	(5)	(63)	(506)	(585)	(611)	(769)
<u>ent Payments</u>	<u>-3502</u>	<u>-5887</u>	<u>-12439</u>	<u>-19058</u>	<u>-20247</u>	<u>-24696</u>
Goods	-2993	-4969	-10644	-16046	-16060	-17968
Private sector	(-1572)	(-2712)	(-5031)	(-7627)	(-7908)	(-8550)
Public sector	(-1421)	(-2257)	(-5613)	(-8419)	(-8452)	(-9418)
Services	-509	-918	-1795	-3012	-4187	-6728
Private sector	(-203)	(-377)	(-806)	(-1432)	(-2614)	(-3943)
Public sector	(-149)	(-310)	(-648)	(-1269)	(-1272)	(-2406)
Interest	(-157)	(-231)	(-341)	(-311)	(-300)	(-379)
<u>ital Account (net)</u>	592	925	-3220	-3607	-1766	1005
<u>ital Receipts</u>	<u>1064</u>	<u>1505</u>	<u>702</u>	<u>961</u>	<u>1709</u>	<u>3881</u>
Gov. utilisation of foreign long-term loans and credits	(978)	(1296)	(257)	(300)	(560)	(1502)
Inflow of capital and utilisation of foreign loans by the private sector	(86)	(209)	(445)	(661)	(617)	(1574)
Gov.'s principal of loans and capital paid back from abroad	(0)	(0)	(0)	(0)	(532)	(804)
<u>ital Payments</u>	<u>-472</u>	<u>-580</u>	<u>3922</u>	<u>-4568</u>	<u>-3475</u>	<u>-2876</u>
Repayment of principal of foreign long-term loans by the Gov.	(-455)	(-541)	(-1313)	(-729)	(-711)	(-681)
Repayment of principal of loans by the private sector and outflow of foreign capital	(-12)	(-18)	(-46)	(-245)	(-137)	(-564)
Loans & investment abroad by the Government	(-5)	(-1)	(-2388)	(-2941)	(-1786)	(-930)
Other payments by the private sector (-)		(-20)	(-175)	(-653)	(-841)	(-701)
Discrepancies & currency rate adjustments	4	117	-187	-391	-103	-101
<u>ic Balance</u>	<u>431</u>	<u>1387</u>	<u>5076</u>	<u>-1084</u>	<u>2288</u>	<u>2197</u>
-recurrent transfers	62	-236	0	0	0	0
<u>al Balance</u>	<u>493</u>	<u>1151</u>	<u>5076</u>	<u>-1084</u>	<u>2288</u>	<u>2197</u>
<u>ange in the foreign reserves of the banking system</u>	<u>-493</u>	<u>-1151</u>	<u>-5076</u>	<u>1084</u>	<u>-2288</u>	<u>-2197</u>

Table A.5.3

Non-oil exports and commercial imports, 1962-77

	Non-oil exports \$ m.	Commercial imports \$ m.
1962	114.7	547.6
1963	128.2	513.5
1964	153.1	742.3
1965	180.8	898.8
1966	157.5	963.7
1967	181.8	1190.3
1968	216.9	1389.2
1969	224.7	1542.7
1970	344.5	1676.9
1971	450.8	2061
1972	439.8	2570
1973	634.7	3737
1974	581.5	6614
1975	592.2	11696
1976	539.9	12766
1977	523.2	14124

Sources: B.M.I., An. Rep. 1970, pp. 133-5, 240-1; 1972, pp. 159, 164, and 1977, pp. 232-3, 248-9. Based on Foreign Trade Statistics of Iran.

Table A.5.4

Distribution of commercial imports according to the type, 1971-75

	1971		1972		1973		1974		1975	
	Vol. T.m.	Value Rl.b.	Vol. T.m.	Value Rl.b.	Vol. T.m.	Value Rl.b.	Vol. T.m.	Value Rl.b.	Vol. T.m.	Value Rl.b.
Primary products & intermediate goods ¹	4.4	92	5.2	111.9	6	163.8	8.2	295	10.7	427.1
Consumer goods	0.2	15.9	0.4	22.5	0.4	29	0.8	58	1.5	110
Capital goods ²	0.2	49.5	0.3	58.9	0.3	60.1	0.4	92.7	1.2	254
Unidentified ³	nil	0.2	nil	0.4	nil	0.3	nil	2.3	nil	9.7
Total	4.8	157.7	5.9	193.7	6.7	253.2	9.4	448.1	13.3	800.8

. All oil products are regarded as intermediate goods.

. Passenger cars are included in capital goods.

. All figures on volume are 1000 tons.

Source: M.A.I. Salnamah, 1978, p. 574, based on the Foreign Trade Statistics, 1971-75.

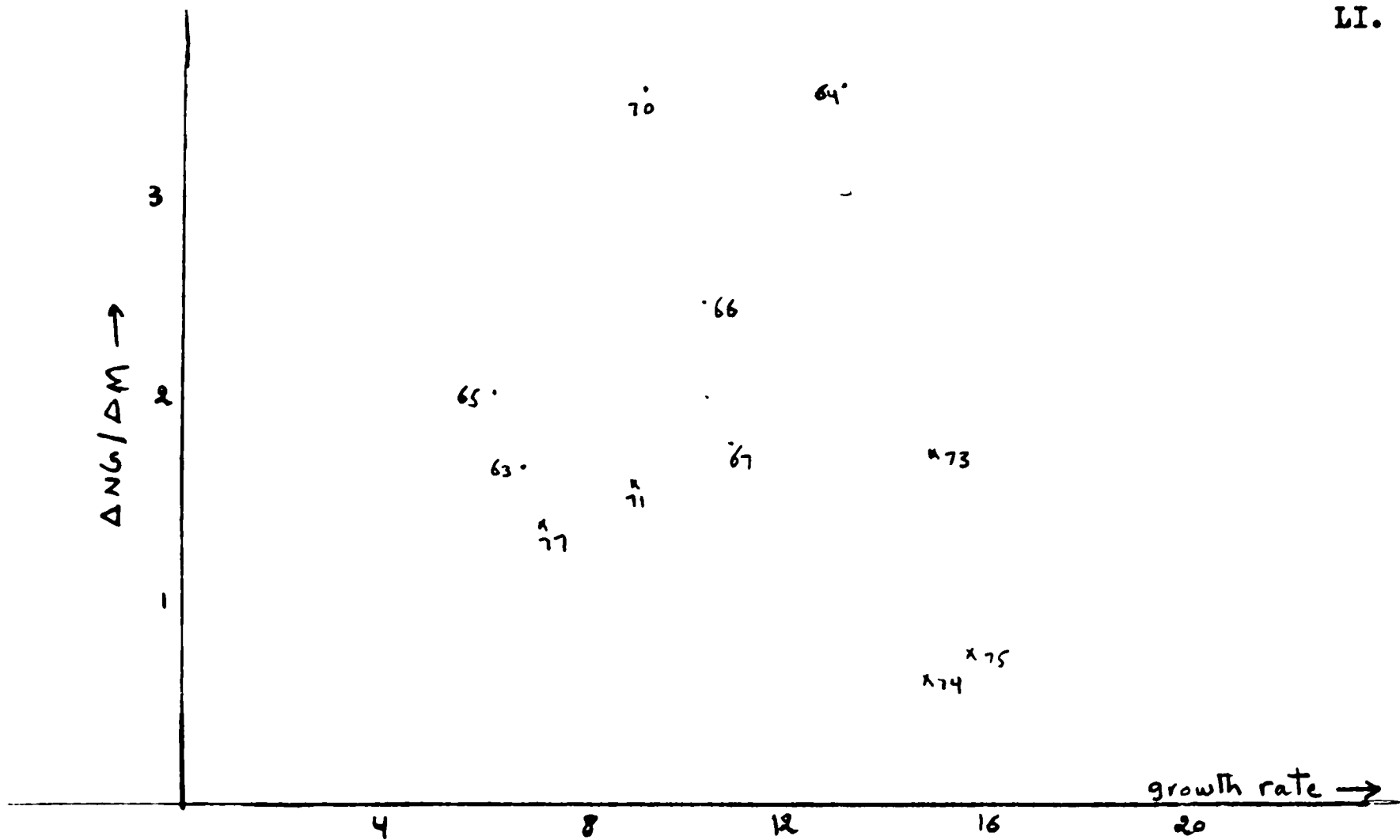


Chart A.5.1.i The ratio of ΔNG over ΔM for various growth rates of NG.*

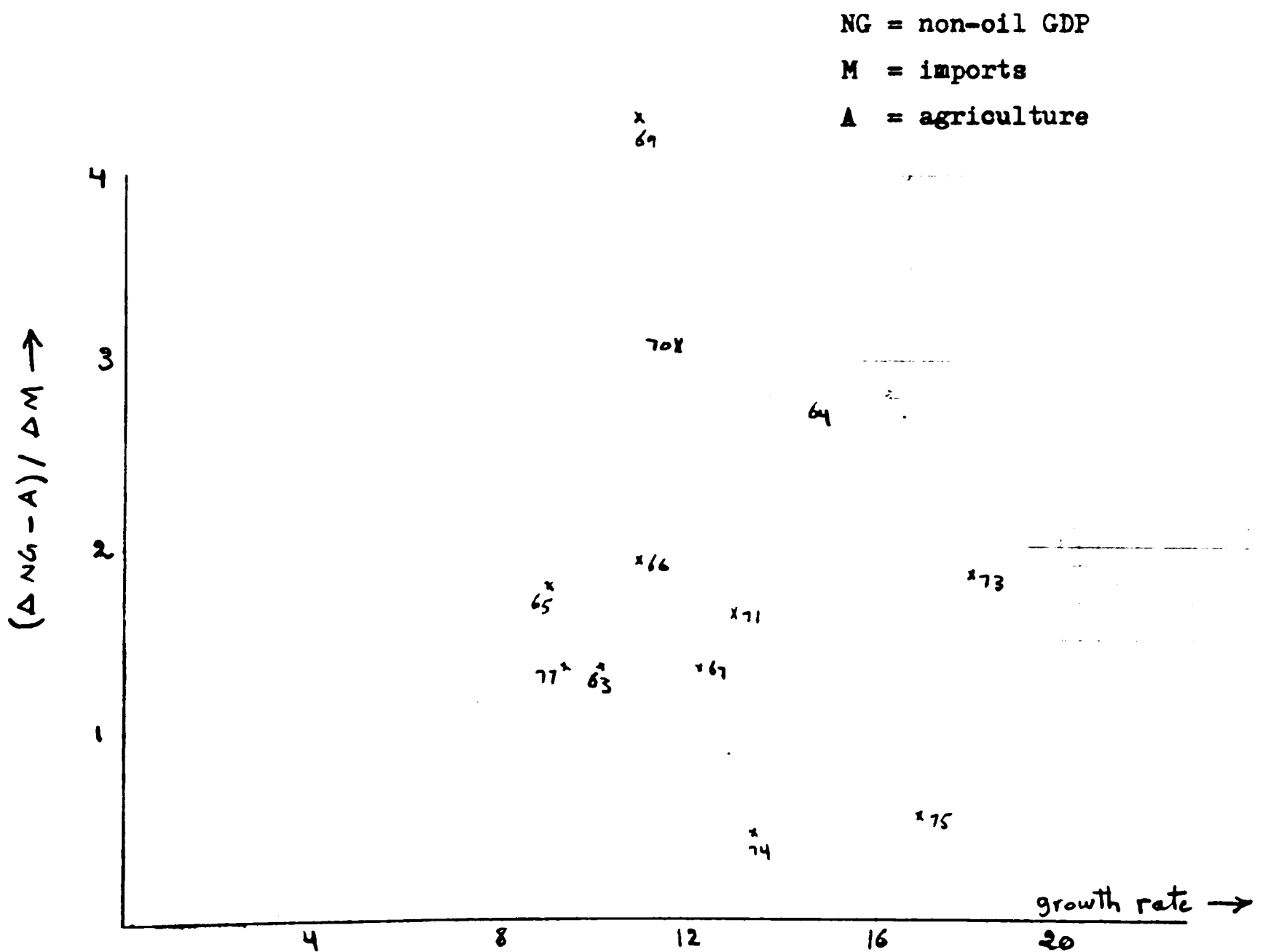


Chart A.5.1.ii The ratio of $\Delta(NG-A)$ over ΔM for various growth rates of NG-A.*

* All quantities are in constant prices.

Source: Table A.5.1.

A.6 Distribution of private consumer expenditures, and estimates of private income.

Table A.6.1

The distribution of consumer expenditures for a sample of urban families in 1972

Items	Expenditure class (Rl.)	Total	Less than 2000	2000	3000	4000	5000	7500	10000	12500	15000	20000	30000
				to 2999	to 3999	to 4999	to 7499	to 9999	to 12499	to 14999	to 19999	to 29999	and more
No. of families		15476	762	1146	1594	1652	3440	2281	1454	954	1091	691	411
No. of population		78763	1522	3765	6505	7653	17973	12976	8757	5865	6900	4277	2570
No. of population per family		5.1	2	3.29	4.1	4.63	5.23	5.7	6.02	6.15	6.33	6.2	6.25
% of families		100	4.9	7.4	10.3	10.7	22.2	14.7	9.4	6.2	7	4.5	2.7
% of population		100	1.9	4.8	8.3	9.7	22.8	16.5	11.1	7.4	8.8	5.4	3.3
Average expenditures per family (Rl.)		10994.4	1584.7	2639.6	3595.3	4581.8	6289.3	8736.8	11291	13781.1	17327.8	24101.1	48446.8
Food (Rl.)		4789.4	920.5	1630.9	2223.2	2738.1	3579.3	4560.7	5579.9	6431.4	7707.5	8870.7	11746.9
Others (Rl.)		6205	664.2	1008.7	1372.0	1843.7	2710	4176.1	5711.1	7349.7	9620.3	15230.4	36699.9
Total expenditures (Rl.)		144.3 x 10 ⁶ ¹	1207542	3024982	5730908	7569134	21635192	19928640	16417114	13147169	18904629	16653860	19911634
% expenditures for each group		100	0.84	2.12	3.97	5.25	15.1	13.82	11.38	9.12	13.12	11.54	13.8
Per capita expenditures (Rl.)		2135.8	792.3	802.3	876.9	989.6	1202.5	1532.8	1875.6	2240.8	2737.4	3887.3	7751.5
Cumulative % of families			4.9	12.3	22.6	33.3	55.5	70.2	79.6	85.8	92.8	97.3	100
Cumulative % of expenditures			0.84	2.96	6.93	12.18	27.18	40.99	52.37	61.48	74.58	86.12	100

1. The sum of expenditures of various classes.

Source: Based on M.A.I., Family Budget Survey of the Urban Areas for 1972, ser. no. 395, Tables 1.6, Alef. 2.1 and 2.2.

Table A.6.2

The distribution of consumer expenditures for a sample of urban families in 1975

Items	Expenditure class (Rl.) Total	Less than 2500	2500 to 4999	5000 to 7499	7500 to 9999	10000 to 14999	15000 to 19999	20000 to 29999	30000 to 49999	50000 to 99999	100000 and more
No. of families	7880	194	434	599	725	1368	1114	1371	1194	625	256
No. of population	42418	407.2	1425.2	2621.4	3575.8	7308.6	6366.4	8267.3	7083.8	3838.8	1322.8
No. of population per family	5.38	2.1	3.28	4.38	4.93	5.34	5.72	6.03	5.93	6.14	5.95
% of families	100	2.46	5.51	7.60	9.20	17.36	14.14	17.4	15.15	7.93	3.25
% of population	100	0.96	3.36	6.18	8.43	17.23	15.01	19.49	16.7	9.05	3.59
Average expenditures per family (Rl.)	28229.5	1583.6	3928.8	6233.3	8770.5	12470.8	17470.3	24472.5	37907.6	67134.9	208217
Food (Rl.)	11526.8	624.85	1923.8	3211.5	4382.3	6155.3	8748.19	11649.3	17340.8	29874.1	43407.6
Others (Rl.)	16702.7	958.4	2005.1	3022	4388.2	6315.5	8722.1	12823.2	20567.4	37260.8	164809.4
Total expenditures (Rl.)	222.5 x 10 ⁶ ¹	307177.7	1704769.4	3733866.5	6359366.5	17059986	19461914.2	33551838.6	45261686.3	41959337.5	53303552
% expenditures for each group	100	0.14	0.77	1.68	2.86	7.66	8.74	15.07	20.32	18.84	23.95
Per capita expenditures (Rl.)	5064.9	754.4	1196.2	1424.4	1778.9	2334.2	3056.9	4058.4	6389.5	10930.3	35003.4
Cumulative % of families		2.46	7.97	15.57	24.77	42.13	56.27	73.67	88.82	96.75	100
Cumulative % of expenditures		0.14	0.91	2.59	5.45	13.11	21.85	36.92	57.24	76.08	100

1. The sum of expenditures of various classes.

Sources: Based on M.A.I., Family Budget Survey of the Urban Areas for 1975, and data obtained from the income distribution division

Table A.6.3

Distribution of private consumer expenditures in the urban areas according to the job of the head of the family (1972 and 1975)

	Employers	Self-employed	Workers in the private sector	Government employees	Others [†]
1972:					
No. of families	584	4854	4885	3078	2063
Average monthly expenditures (Rl.)	19353.5	11548.9	8668	14423.2	11122.7
foods & tobacco	(7383.1)	(4648.7)	(4062)	(5937)	(4129.6)
others	(11970.4)	(5100.2)	(4606)	(8486.2)	(6993.1)
Total monthly expenditures (Rl.1000)	11302.4	56058	42343.1	44394.6	22964
1975:					
No. of families	598	2289	2214.2	1494	1282.9
Average monthly expenditures (Rl.)	39918.9	24433	22349	43497	21973
foods & tobacco	(14747)	(11851)	(9550)	(146.6)	(9267)
Others	(25171.9)	(12562)	(12799)	(28881)	(12706)
Total monthly expenditures (Rl.1000)	(23871.5)	53927.1	49485	64984.5	28189.6

† Family workers, trainees and unspecified.

Sources: M.A.I. Family Budget Survey of the Urban Areas, 1972, pp. 76-78 , and 1975, pp. 40-44.

Estimation of private savings and income

To estimate private savings we adopted the following procedures:

1. The budget savings of the central Government were taken as the difference between revenues and current expenditures.
2. Savings of the public enterprise and corporations were estimated, for 1969-77, for which data were available, as shown in Table A.6.4
3. The sum of the above-mentioned figures was regarded as a rough indicator of savings of the public sector. We did not include the figures for municipalities because we lacked access to data for the whole period. Nevertheless, they hardly save anything. In fact, their budget is small, and they depend on the central Government for transfer of funds. For example, in 1974 their total expenditure amounted to Rl. 17.6 b. (1.2% of the budget of the central Government); and out of their Rl. 19.5 b. receipts, Rl. 17 b. was transferred from the central Government (M.A.I. 'Natayegē Amargiri Hazinah Shahr-dari-haiē Keshvar' for 1974 (Teh. M.A.I. Ser. No. 743, p. 56 and 61).
4. For the period before 1969, the B.M.I. estimates of the savings of the public sector were used. These estimates are also based on budget figures. We adjusted the B.M.I. figures, in Table A.6.5, for investment outlays included in the Ordinary Budget.
5. Before deducting public savings from national savings we had to make a further adjustment in the former figures. The national savings are estimated, by the B.M.I., by adding the net current account of balance of payment to domestic fixed capital formation. We noticed a difference between the figures of oil revenues in the balance of payments (X_0) and those of

the budget (R_0). To allow for that, necessary adjustments were made in Tables A.6.5 and A.6.6 . For the period before 1972 the discrepancies were small, and they seem to have resulted from prepayments by oil companies which were included in the budget but not in the relevant figures of exports in the balance of payments.

For the period after 1972, $X - R_0$ was substantial. The discrepancy arises, perhaps, from the export of oil sold in credit, and/or from the exclusion of the income from investment abroad by NIOC in the budget (or from misappropriation of funds by the regime).

The estimate of the share of the oil companies in exports of oil for 1973 is based on M.A.I. ('Baravarde Arzeshe Afzudahe Naft va Gas', unpub. 1975, p. 22). For 1974-77 we assumed that the service fee paid to the oil companies was 30 cents per barrel of oil produced.

7. The estimates of private savings for the period before 1972 did not appear acceptable when we used the latest estimates of national savings; the figures showed a decrease in private savings in a few years (Table A.6.5); so we used the earlier estimates instead. To be consistent, the earlier estimates of private consumption were also employed in estimating private income in Table A.6.7 .

Table A.6.4

Estimates of budget savings of Government profit-making organisations (PMO), Government Corporations (GC), and the central Government, 1968-77.

	Savings of PMO & GC Rl.b.						Gov. Saving ⁴ Rl.b.	Total Sgb ⁵ Rl.b. 6 + 7
	Revenues ¹	Current Expend- itures ²	Deprec- iation Reserves	Saving 1-(2-3)	Gov. Share ³	Net 4-5		
	(1)	(2)	(3)	(4)	5	6	7	8
1969	110.1	60.8	6.8	56.1	29.5	26.6	37.9	64.8
1970	133.7	78.7	7.7	62.7	33.2	29.7	43.9	73.6
1971	173.6	102.8	9.3	80.1	38.8	41.3	84.9	126.2
1972	252.9	107.1	13.1	158.1	61.6	97.3	77.4	174.7
1973	333.6	146.1	22.6	210.1	121.7	88.4	148	236.4
1974	1304	239.4	25	1089.6	967	122.6	491	613.6
1975	1581	351.8	33.2	1262.4	1141.3	121.1	540.7	661.8
1976*	1846.4	342.8	39	1542.6	1436.3	106.3	557.4	603.7
1977*	1996.6	773	52	1269.6	1054.6	215	538	753

* Preliminary.

1. Does not include transfer, from the Government, and loans.

2. Includes depreciation reserves.

3. The sum of Corporation Taxes and Government share in profits of these organisations included in column (7).

4. The difference between revenues and current expenditures of the General Budget.

5. Budget saving.

Sources: Columns 1, 2, 3 and 4 based on the texts of the Budget Acts; column 7 based on Table A.2.2 .

Table A.6.5

Estimate of private savings, 1965-72

	1965	1966	1967	1968	1969	1970	1971	1972	Source
1. Oil Rev.	38.6	45.6	56.4	64	72.9	87.2	152.1	181.4	B.P. ¹
2. Oil Rev.	50	48.6	54.1	61.8	76.4	85.6	155.3	178.2	Budget ²
3. (1) - (2)	-0.9 ³	-3	+2.3	+2.2	-3.5	1.6	-3.2	+3.2	
4. Gov. Savings	44.2	46.9	43.8	49.4	64.8	73.6	126.2	174.7	B.M.I. & Table A.6.4
5. I.O. ⁴	1.3	1.7	2.6	3.1	-	-	-	-	Table A.2.16
6. Gov. savings revised	44.6	45.6	48.7	54.7	61.3	75.2	123	177.9	(4) + (3) + (5)
7. National savings (a) ⁵	71.9	74.5	96.7	101.5	117.1	123	211.9	292.3	N.I.
8. Private savings (a)	27.3	28.9	48	46.8	55.8	47.8	88.9	114.4	(7) - (6)
9. National savings (b) ⁶	78	80.2	99	105.1	119.3	134	218.5	292.3	N.I.
10. Private savings (b)	33.4	34.6	50.3	50.4	58	58.8	95.5	114.4	(10) - (9)

1. National Income Accounting; estimated, on the basis of data from balance of payment, by B.M.I., Daramadē Meli Iran, 1959-71, p. 32, except for 1972 which is collected from B.M.I., Bureau of National Accounting, directly.

2. Table A.2.2.

3. Does not include Rl. 10.5 oil bonus which is included in row (2), but not row (1).

4. Investment outlays included in the ordinary budget.

5. The latest estimate by B.M.I.

6. The earlier estimate, based on Daramadē Meli, op. cit.

Table A.6.6

Estimate of private saving, 1973-77

	Year					Sources
	1973	1974	1975	1976*	1977*	
1. Export of oil and gas in \$ m.	8318	21014	20034	24179	23451	B.P. ¹
2. Share of oil companies in \$ m.	890.8	533.6	444.2	449.3	363	Our est. ²
3. Net export revenues in \$ m. (X_o)	7427.2	2048.4	19589.8	23729	23088	(1) - (2)
4. Oil revenues received in \$ m (X_{or})	4945	18654	19074	20671	20926	B.R.P. ³
5. Exchange rate	68.27	67.76	69.95	70.64	70.71	B.M.I.
6. X_o in Rl.b.	507.1	1387.7	1370.2	1676.2	1632.6	
7. (X_{or}) in Rl.b.	337.5	1263.9	1334.2	1460.2	1479.6	
8. Oil revenues from budget Rl.b. (R_o)	311.3	1205.3	1248.8	1329	1497.8	Table A.2.2
9. $X_o - R_o$: Rl.b.:	195.8	182.4	123.4	347.2	134.8	
10. $X_o - X_{or}$ (Rl.b.)	(169.6)	(123.8)	(36.1)	(216)	152.9	
11. $X_{or} - R_o$ (Rl.b.)	(26.2)	(58.6)	(85.4)	(131.2)	(-18.2)	
12. National savings (S) (Rl.b.)	627.6	1367.9	1395.4	2035.4	2113	N.I. ⁴
13. Government budget savings (S_{gb}) (Rl.b.)	236.4	613.6	661.8	807.2	753	Table A.6.4
14. $\bar{S}_g = S_{gb} + (X_o - X_{or})$ (Rl.b.)	406	737.4	697.7	1023.2	905.9	
15. $S_p = S - \bar{S}_g$ (Rl.b.)	221.6	630.5	697.7	1012.2	1207.1	

* Preliminary.

1. Balance of payments, B.M.I.

2. Our estimate, see the notes to this appendix.

3. Balance of receipts and payments, Table A.5.2.

4. National Income, Table A.4.8.

Table A.6.7

Estimate of private income, propensity to consume and the ratio of private consumption in broad sense to private income, 1962-77

	C_t^1 Rl.b.	Sp_t Rl.b.	$C_t + Sp_t$ $= Y_t$ Rl.b.	$P_t =$ C.P.I. *	Y_t^* Rl.b.	g %	C_t^* Rl.b.	C_t/Y_t %	C_t/Y_t B.S. ² %	C_t^*/Y_{t-1}^*	C_{bt} Rl.b.	C_{bt}/Y_t %	$C_{bt}/[(Y_t + Y_{t-1})/2]$ %
1962	252.3			60.7					88		271.3		
1963	262.1			61.3					86		282.9		
1964	294.7			64					87		319.1		
1965	312.5	33.4	345.9	64.2	538.9		486.7	90.3	82		341	98.8	
1966	348.6	34.6	383.2	64.7	592.4	9.9	538.8	91	83	99.9	378.8	98.9	96.2
1967	371.6	50.3	421.9	65.2	646.8	9.9	569.9	88.1	82	96.2	405.3	96	1.0
1968	423.1	50.4	473.5	66.1	715.2	10.6	639.1	89.4	82	98.8	457.2	96.6	98.2
1969	463.7	58	521.7	68.4	760.3	6.3	675.9	88.9	81	94.5	500.3	95.9	101
1970	522.6	58.8	581.4	69.5	846.6	11.3	753	88.9	83	99	559.3	96.3	101
1971	554.9	95.5	650.4	73.3	887.3	4.8	757.1	85.3	77	89.3	603.9	92.9	98.1
1972	686.6	114.4	801	77.9	1028.2	15.9	881.4	85.7	72	99.3	752.9	94	104
1973	879.8	221.6	1101.4	86.6	1271.8	23.7	1015.9	79.9	74	98.8	957.1	86.9	101
1974	1127.8	630.5	1758.3	100	1758.3	38.2	1127.8	64.1	70	88.6	1240.9	70	86.7
1975	1316	697.7	2013.7	109.9	1832.3	4.2	1197.4	65.4	69	68.9	1506.1	74.8	79.9
1976†	1532.5	1012.2	2544.3	128.1	1986.2	8.4	1196.3	60.3	64	63.8	1840.3	72.3	81.4
1977†	2160.8	1207.1	3367.9	160.2	2098.4	5.7	1350.3	64.2		67.9	2584.6	76.7	87.9

C_t = private consumption; Sp_t = private savings; Y_t = private income; C.P.I. = Consumer Price Index; g = the rate of growth of Y_t^* ; asterisks denote that the variable is in real terms; $C_{bt} = C_t$ + private investment in construction.

† Preliminary.

1. Those of 1962-71 are the earlier estimates (by B.M.I.) and are slightly different from the relevant figures in Table A.4.6.
2. Brown's estimate.

Sources: C_t Table A.4.6 except 1962-71 which are based on B.M.I. Daramadē Meli Iran 1959-71, pp. 50-51; C.P.I.: B.M.I.; investment in construction: Tables A.4.6, A.4.8; Sp_t : our own estimate, Tables A.6.5, A.6.6, column 8; Brown (1978), p. 5.

A.7 Agriculture and Industry

Table A.7.1

Various data on wheat, and wage and price indices (1959-1977)

Year	Wheat							Price indices ²		
	Purchase by Gov. (1000 tons)		Official prices (Rl. tons)		Production & trade (1000 tons)			W.P.I.W. ³	D.F.C.G. ⁴	Wages ⁵
	Purchase	Sale	Purchase ¹	Sale	Produc- tion	Import	Export			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1959	36.5	162.5	5000	6200		22.6	0.7	100	100	100
1960	12.2	177.7	5000	6200	2924	466.5	nil	105.8	103	103.2
1961	127.4	263.5	5000	6200	2869	177.2	-	105.4	102.6	101.8
1962	56	201.7	5000	6200	2755	126.8	nil	113.2	104.2	100
1963	133.9	161.7	5000	6200	2468	63.4	0.2	103.9	103.2	101.8
1964	7.1	257.7	5000	7510	2623	522.3	nil	121.9	112	107.8
1965	15.5	334	5000	7510	3648	213.2	-	130.8	113.6	108.8
1966	197.2	241.9	5000	7510	4381	219.9	-	114.6	111.5	112.7
1967	246.3	400	5000	7510	3800	64	75.8	93	111.4	118.5
1968	244.7	53.3	5500	7500	4400	535.5	212.4	86.5	112.7	139.6
1969	9.3	101.6	5500	6730	4100	0.7	1.8	101.1	115.8	166.9
1970	3.7	310.6	5500	7510	4260	23.3	0.6	122.2	120.4	174.1
1971	0.8	804.4	5500	7510	3700	997.8	-	138.4	129.8	178.1
1972	5	524.8	6300	7510	4546	774.3	-	118.5	135.3	208.7
1973	3.1	593.7	6500	7510	4600	875.7	2.3	127.1	150.6	243.9
1974	116.2	1370.8	8000	7510	4700	1449.8	2.6	204.1	178.7	321.3
1975	496.7	1553.8	9000- 10000	7510	5500	1463.5	0.5	166.9	189.2	484.6
1976	793.9	1641.8	9000- 10625	7510	6000	432.7	-	171.4	219.8	654.6
1977	980.5	2000	11000- 12000	8008	5500	1274.7	-	200.9	254.1	877.9

1. Those of 1961-1967 are minimum prices; Rl. 1000 was also paid as bonus in cases where the wheat purchased was of the best quality; those of 1968-1970 are average prices for various grades (1-4) of wheat.
2. The figures for 1959-73 are based on the old indices (1969 = 100) and those of 1974-77 on new indices (1974 = 100) which are chained with the former.
3. Wholesale Price Index of Wheat.
4. Domestically Produced and Consumed Goods.
5. Wages of unskilled construction workers.

Sources: Column 1-4: Institute of Grain, General Record Office, relevant files; Column 5: B.M.I. based on 1960 Agricultural Census and M.A.; Column 6-7: Annual Reports of Foreign Trade Statistics; Column 8-10: 1959-73, B.M.I., The Wholesale Price Index, Teh. 1974; 1974-77 B.M.I. The Statistical Office.

Table A.7.2

Imports and exports of agricultural commodities

Year	Imports		Exports	
	Weight	Value	Weight	Value
	1000 tons	Rl.b.	1000 tons	Rl.b.
1963	518.5	6.7	297.8	6.9
1964	1184	12.5	303.1	7.6
1965	821.3	9.85	372.2	8.9
1966	738.5	9.3	338.7	7.4
1967	541.4	8.1	431.2	8.5
1968	1099	11.5	605.9	9.7
1969	409.6	9.6	424.7	10.9
1970	532.2	13.8	514	11.4
1971	1712	19.9	447.1	12.8
1972	1630	23.1	501.3	16.5
1973	1952	33.3	608	24.7
1974	3314	92.8	409	16.9
1975	3962	141	412	20.9
1976	3123	112.9	290	19.7
1977	n.a.	n.a.	n.a.	18.5

Sources: B.M.I., based on Foreign Statistics of Iran.

Table A.7.3

Various price indices of wheat 1973-77

Year	Official purchase price	Weight	W.P.I.W. ¹	Weight	Adjusted index
1973	130	0.0012	127.1	0.9988	127.1
1974	160	0.0494	204.1	0.9506	201.9
1975	190	0.1806	166.9	0.8194	171.1
1976	196.3	0.2646	171.4	0.7354	177.9
1977	230	0.3566	200.9	0.6434	211.2

1. Wholesale price index of wheat.

Source: Based on Table A.7.1.

Table A .7.4

Various data on industrial establishments* in the urban areas, 1967 and 1973

	1967				1973			
	Total	Small	Large ¹	Large excl. C. & W. ³	Total	Small	Large	Large excl. C. & W.
No. of plants	160723	156223	4500	3356	263136	197080	6056	4533
No. of workers	681327	458891	222436	130497	947100	584991	362179	250050
No. of wage and salary earners	469675	254856	214799	125085	689388	341359	348029	240026
Output (Rl.m.)	184057	60445.2	113611.4	99506	453359	129713	323666	270686
Input (Rl.m.)	113421	34883.8	78337.5	75552	281267	79280	201987	166910
Value added (Rl.m.)	70635.2	25561.3	45073.8	39407	172112	50433	121679	10367
Wages and salaries ² (Rl.m.)	19006.5	6401.5	12604.9	8868.9	42389	11047	31342	23550
Profit and other elements of value added (Rl.m.)	51628.7	19159.8	32462	30538	129723	39386	90337	80129
Prime costs: wages + inputs (Rl.m.)	132427.4	41285	91142.4	64421	323656	90327	233329	190460

* Excludes electricity and NIOC.

1. Plants with more than 10 workers.

2. Includes share of labour in net profit (according to the Profit Sharing Act), and insurance payments.

3. Carpet weaving and textiles.

Sources: B.I.M. Amarē Sanatī, 1973, Summary Tables; and Amarē Sanayē Bozorg, 1967, pp. 1-3, 1973, pp. 1-3.

Table A.7.5

Various data on large industrial establishments* (1971-76)

	1971	1972	1973	1976
No. of plants	3788	3973	4125	4804
No. of employees	254385	258958	290084	296898
No. of wage and salary earners	246104	24649	290084	296898
Inputs (Rl.m.)	135336	174168	205405	302364
Output (Rl.m.)	205823	268803	327652	562937
Value added (Rl.m.), of which ¹	70528	94635	122247	260573
Wages and salaries	(17541)	(22485)	(27972)	(53624)
Profit and depreciation	(37803)	(55826)	(75842)	(n.a.)
Prime cost = input + wages and salaries	152877	196653	233377	355989
Value added - wages & salaries	52987	72150	94275	206948
No. of workers per plant	67.1	65.2	70.3	61.8

* Plants with more than 10 workers; carpet weaving is excluded.

1. The difference between these items and the sum of wages and salaries, and profit is interest, rent and 'general services'.

Sources: M.A.I. 'Natayegē Sarshemari Az Kargahayē Bozorg Sanati', 1971, 1972 and 1973: Summary tables 1-87, except for the figures on value added, wages and profits for which revised data were derived from M.A.I. Salnamah 1977, pp. 395-7.

Table A.7.6

Fixed investments and value added in the industrial sector¹ of Iran (1967-77)

	Total fixed net capital ² (K) Rl.b.	Gross value added (V.A.) Rl.b.	K/V.A.
1967	77.7	79.5	0.98
1968	93.2	90.2	1.03
1969	118.7	104.3	1.14
1970	153.5	117.5	1.31
1971	193.6	138.1	1.40
1972	235.8	163.7	1.44
1973	292.2	200.9	1.45
1974	397.4	230.7	1.20
1975	621.5	322.9	1.92
1976	850.6	453.3	1.89
1977	1148	575	1.99

1. Excludes public oil corporation and electricity.

2. Machinery and buildings.

Source: M.I.M., Amarē Zamarnē Kalahayē Sanati Iran (Trends in industrial output), Sahriver 1356 (1977), p. 2.

Table A.7.7

Various indices of large urban manufacturing,¹ 1969-77

	1969	1970	1971	1976	1977
1. Production	100	118.1	127.6	287.6	315.8
2. No. of employees	100	113.9	112.3	165.2	167.9
3. Earnings	100	122.5	141.6	576.8	745.7
4. Productivity (1:2)	100	103.6	113.6	174.1	188.1
5. Per capita earnings (3:2)	100	107.2	126.1	348.9	443.7
6. Unit labour costs (5:4)	100	103.4	111	200.4	235.9
7. Unit labour cost (1970 = 100)	96.7	100	107.4	193.8	228.1

1. Excludes sugar industries.

Sources: 1969-74: B.M.I. Bull. the First Quarter 1977, pp. 70-71;
 1974-77: B.M.I. Bull. (in Farsi) the Second Quarter, 1357
 (1978), No. 178, p. 108.

A.8 Miscellaneous Data

Table A.8.1

Population in rural and urban areas (1962-1977)

	1000 persons		
	Urban	Rural	Total
	(1)	(2)	(3) = (1) + (2)
1962	8048	14641	22689
1963	8451	14934	23385
1964	8881	15233	24112
1965	9334	15538	24872
1966	9794	15995	25789
1967	10269	16172	26441
1968	10766	16352	27118
1969	11287	16534	27821
1970	11833	16718	28551
1971	12406	16904	29310
1972	13007	17092	30099
1973	13637	17282	30919
1974	14297	17474	31771
1975	14989	17668	31771
1976	15797	17865	33662
1977	16562	18063.6	34625.6

Sources: 1962-64 M.A.I. Salnamah, 1973, p. 37, 1966 and 1976: relevant population census; others estimated by this author on the basis of the average annual growth rate between 1966 and 1976.

Table A.8.2

Data on manpower and employment 1972 and 1976 (1000 persons)

	<u>1972</u>	<u>1976</u>
1. Occupied:		
Agriculture ¹	3700.4	2978.5
Mining	14.9	93
Manufacturing ²	1419.5	1661.5
Construction	535.6	1177
Public utilities ³	47	61.4
Services:		
Trades, Banking and Insurance	716.9	765
Transport, Communication and Storage	296.6	433
Other Services	885.1	1540.9
Unidentified	21.3	75
2. Total occupied	<u>76357</u>	<u>8788.9</u>
3. Unemployed*	<u>88.6</u>	<u>943.6</u>
4. Economically active (2 + 3)	<u>7774.2</u>	<u>9732.5</u>

* Those of 1976 also include seasonal unemployment in agriculture.
Those of 1972 are over 6 and those of 1976 are over 10 years of age;
both exclude moving population.

1. Includes forestry, fishing and hunting.

2. Includes oil.

3. Water, electricity and gas; those of 1972 include health services.

Sources: M.A.I., Manpower Survey 1972 (Teh. M.A.I. Series No. 357) P14, 20, 23; and M.A.I. 5 per cent sample of 1976 census, pp. 52-58.

Table A.8.3

Indices of prices and wages, 1968-77 (1974 = 100)

	C.P.	Wholesale prices				Wages				Non-oil GDP deflator	
		Total	D.P.C.G. ¹	M. ²	X ³	Construction			Gov. ⁴ services		Manufact. 10 ⁵
						Total (6)	Skilled (7)	Unskilled (8)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
1968	66.1	62.7	63.6	63.9	50.7	44.5	45	43.4	60.6		61.7
1969	68.4	62.2	65.4	68.1	53.5	51	50.1	51.9	60.6	33.7	63.5
1970	69.5	66.8	67.1	69.4	54.3	52.9	51.5	54.4	60.6	41.2	65.1
1971	73.3	71.7	72.7	71.7	57.4	54.3	53.4	55.4	60.6	47.7	68.3
1972	77.9	75.4	75.4	77.9	66.7	63.8	62.8	65	67.6	59.1	75.1
1973	86.6	85.5	84.3	89	92.4	77.6	79.2	75.9	74	75.4	84
1974	100	100	100	100	100	100	100	100	100	100	100
1975	109.9	105.3	105.4	104	103.5	147.1	144.7	150.8	117	143.6	115.5
1976	128.1	119.5	123	110.7	125.2	205.1	205.6	204.3	136.4	196.3	130.6
1977	160.2	136.9	142.2	124.1	140.5	275.6	277.1	273.2	146.1	249.9	154.2

1. Domestically produced and consumed goods.
2. Imports.
3. Exports, excluding oil.
4. The deflator used for value added in Gov. services.
5. The selected large industries.

Sources: Columns 1-8, B.M.I., An. Rep. 1977, pp. 288-91, and 212, except for the period before 1972 which is taken directly from B.M.I.; Columns 9 & 11: based on Tables A.4.1 - A.4.4 ; Column 10: B.M.I. Natayegē Barrasi Sanayē Montakhab 1975, p. 30; and 1976, p. 23.

Table A .8.4

The supply of money (1968-1977)

	Rl.b.			Growth rate	G.P.I. Growth rate
	Money	Quasi- money	Total		
1968	87.9	87.4	175.3		
1969	90.4	117.1	207.5	18.4	3.5
1970	97.4	137	234.7	13.1	1.6
1971	117	179	296.3	26.2	5.5
1972	158.7	241.3	400	35	6.4
1973	202.7	315.3	518	29.5	11.2
1974	327.2	488.5	815.7	37.5	15.4
1975	446.5	710	1156.5	41.8	9.9
1976	611.2	1015.1	1626.3	40.6	16.5
1977	790.2	1349	2139.5	31.5	25.2

Sources: Money supply: B.M.I.; C.P.I. Table A.8.3.

Table A.8.5

Uses of the electricity generated by the Ministry of Energy (million kilowatt hours) over 1967-77

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Industrial use:	808	1069	1600	2372	3185	4136	5846	7025	7808	8577	9580
Industry	504	656	914	1427	2035	2745	4048	5001	5287	5575	6500
Agriculture	33	49	79	91	121	141	213	267	330	363	380
Commercial and public	271	364	607	854	1029	1250	1585	1757	2191	2639	2700
Domestic use (households)	473	639	691	808	983	1218	1423	1620	2034	2620	2600
Others*	180	252	293	292	351	369	527	507	604	537	820
Total	1461	1960	2584	3472	4519	5723	7796	9152	10446	11734	13000

* Street lighting, charity organisations, mosques.

Sources: B.M.I., An. Rep. 1972, p. 208, 1977, p. 196, based on Ministry of Energy.

Table A.8.6

Total production of electricity (million kilowatt hours) over 1967-77

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Ministry of Energy	1842	2431	3197	4256	5490	6870	9324	11165	12778	14211	15755
Private Sector	2291	2194	2342	2502	2616	2683	2769	2840	2922	3024	3200
Total	4133	4625	6539	6758	8106	9553	12093	14005	15700	17235	18955

Source: as Table A.8.5.

Bibliography

A. Books and Articles

- Adelman, I. & Morris, C.T. (1971) 'An Anatomy of Income Distribution in Developing Countries', Dev. Digest, Oct., pp. 24-37.
- Agah, M. (1958) 'Some Aspects of Economic Development of Modern Iran' (Oxford Univ. D.Phil. Thesis, Bodleian Library).
- Amazegar, J. & Fekrat, M.D. (1973) Iran: Economic Development under Dualistic Conditions (Chicago, the University of Chicago Press).
- Arndt, H. (1976) 'Power and Competition' in A.P. Jacquemin & H.W. de Jong (eds), Markets, Corporate Behaviour and the State; International Aspects of the Industrial Organisation (The Hague, Martinus, Nithoff), pp. 33-52.
- Arrow, K. (1971) Essays on the Theory of Risk-Bearing (London, North-Holland Publishing Company), pp. 1-44, and 90-120.
- Ashraf, A. (1970) 'Historical Obstacles to the Development of a Bourgeoisie in Iran', Iranian Studies, Spring.
- Avramovic, D. (1970) 'Industrialisation of Iran: The Record, the Problems and Prospects', Quarterly Jour. Econ. Research Tahgigat-e egtesadi, VII, 18, pp. 14-47.
- Becker, G. (1968) 'Crime and Punishment: an Economic Approach', Jour. of Pol. Econ., April, pp. 164-207.
- Beckford, G.L. (1972) Persistent Poverty (London, Oxford University Press). The introductory chapter and chapters 6, 7, 8, 9.
- Brainard, W.C. & Cooper, R. (1968) 'Stanford Food Institute Studies', Agricultural Economics, Trade and Development, III, 3.
- Brookfield, H. (1975) Interdependent Development (London, Methuen & Co. Ltd).
- Brown, A. (1978) 'A Note on the Consumption Function in Iran', Ox. Bull. Econ. & Stat., 40, 1.
- Bruton, H. (1961) 'Notes on Development in Iran', Econ. Dev. & Cultural Change, IX, part I, July, pp. 625-40.
- Cass, D. & Stiglitz, J.E. (1972) 'Risk Aversion and Wealth Effects on Portfolio with many Assets', Rev. Econ. Studies, pp. 331-54.
- Chenery, H. & Syrquin, M. (1975) Pattern of Development 1950-1970 (Oxford, Oxford University Press).
- Cline, W.R. (1975) 'Distribution and Development', Jour. of Dev. Econ., 1, pp. 359-400.
- Cooper, R. (1968) The Economics of Interdependence: Economic Policy in the Atlantic Community (London, McGraw Hill).

- Corden, M. (1974) Trade Policy and Economic Welfare (Oxford, Ox. Univ. Press), Chap. 11.
- Corden, M. (1980) 'Exchange Rate Protection', unpubl. mimeo.
- Cottam, R. (1964) Nationalism in Iran (Pittsburgh, Univ. of Pittsburgh Press).
- Danielsen, A.L. (1976) 'Cartel Rivalry and the World Price of Oil', Southern Economic Journal, 42, 3, pp. 407-15.
- Dasgupta, P. & Heal, G. (1974) 'The Optimal Depletion of Exhaustible Resources', Rev. Econ. Stud., Symposium, pp. 3-27.
- Davidson, P. (1963) 'Public Policy Problems of the Domestic Crude Oil Industry', Am. Econ. Rev., March, pp. 85-108.
- Diaz-Alejandro, C.F. (1978) 'International Markets for LDCs - the Old and the New', Am. Econ. Rev., papers and proceedings, pp. 264-9.
- ECLA, (1960) 'Economic Development in Venezuela in the 1950's', Econ. Bull Latin. Am., v, 1, March, pp. 21-61.
- Emmanuel, A. (1972) Unequal Exchange: A Study of the Imperialism Trade (New York, Monthly Review Press), the introductory chapter.
- Emmanuel, A. (1974) 'Myths of Development versus Myths of Underdevelopment', New Left Review, 85, May-June, pp. 61-82.
- Engels, F. (1976) Anti-Duhring (Peking, Foreign Language Press).
- Erb, G.F. & Schiavo-Campo, S. (1969) 'Export Instability, Level of Development and Economic Size of Less Developed Countries', Bull. Ox. Instit. Econ. & Stat., 31, pp. 263-83.
- Erb, G.F. & Schiavo-Campo, S. (1971) 'The Decline in World Export Instability: A Reply', Ibid., 33, pp. 217-21.
- Feldstein, M.S. (1969) 'Mean-Variance Analysis in the Theory of Liquidity Preference and Portfolio Selection', Rev. Econ. Stud., pp. 5-12.
- Fellner, W.J. (1949) Competition Among the Few: Oligopoly and Similar Market Structure (London, Knope).
- Friedman, M. (1971) 'A Monetary Theory of Nominal Income', Jour. Pol. Econ., 79, 2, March-April, pp. 323-7.
- Friedman, M. & Savage, L.J. (1948) 'The Utility Analysis of Choices Involving Risk', Jour. Pol. Econ., August, pp. 279-304.
- Frisch, H. (1977) 'Inflation Theory 1963-75, A Second Generation's Survey', Jour. Econ. Lit., XV, 4, Dec., pp. 1284-1317.
- Galbraith, J.K. (1973) 'Power and Useful Economics', Am. Econ. Rev., March, pp. 1-11.
- Girvan, N. (1970) 'Multinational Corporations and Dependent Underdevelopment in Mineral-Export Economies', Soc. and Econ. Studies, Dec., pp. 490-526.

- Girvan, N. (1973) 'The Development of Dependency Economics in the Caribbean and Latin America': Review and Comparison, Soc. Econ. Stud., 22, March, pp. 1-29.
- Girvan, N. (1975) 'Economic Nationalism', Daedalus, Fall, pp. 145-158.
- Glezakos, C. (1973) 'Export Instability and Economic Growth: A Statistical Verification', Econ. Dev. & Cultural Change, July, pp. 670-8.
- Green, R.H. (1974) 'Aspects of the World Monetary and Resource Transfer System in 1974, a View from the Extreme Periphery' in Helleiner (1974), pp. 251-73.
- Hallett, G. (1968) The Economics of Agricultural Policy (Oxford, B. Blackwell), Chap. 9.
- Hartshorne, R. (1959) 'The Role of the State in Economic Growth, Contents of the State Area', in Hugh G.J. Aitken (ed.), The State and Economic Growth (N.Y., Social Science Research Council).
- Heal, G. (1975) 'The Depletion of Exhaustible Resources', in M. Parkin and A. Nobay (eds), Current Issues in Economics (London, Manchester Univ. Press).
- Helleiner, K.H. (ed.) (1974) A World Divided. The Less Developed Countries in the International Economy (London, Cambridge Univ. Press), the introductory chapter.
- Hicks, J.R. (1954) 'The Process of Imperfect Competition', Ox. Econ. Papers, 6, 1, pp. 41-54.
- Hirschman, A.O. (1958) The Strategy of Economic Development (New Haven, Yale Univ. Press).
- Hirschman, A.O. (1968) National Power and the Structure of Foreign Trade (Berkeley, Univ. of California Press), Chapters V and VII.
- Hoselitz, B.F. (1955) 'Pattern of Economic Growth', in Canadian Journal of Econ. and Political Science, 21, Nov., pp. 416-31.
- Hoselitz, B.F. (1959) 'Economic Policy and Economic Development', in Aitken (ed.), op. cit. (see Hartshorne).
- Hotelling, H. (1931) 'The Economics of Exhaustible Resources', Jour. of Pol. Econ., April, pp. 137-75.
- I.B.R.D. (1973) 'Income Distribution in Iran' (Iran Basic Economic Mission, Draft Working Paper, Aug. unpubl.).
- Idarhaba, F.S. (1974) 'Instability and Diversification of Foreign Exchange Earnings: The African Experience', Nigerian Jour. of Econ. and Social Studies, March, pp. 17-27.
- Johnston, B.F. (1970) 'Agriculture and Structural Transformation in Developing Countries: A Survey of Research', Jour. Econ. Lit., VIII, 2, pp. 369-405.
- Joshi, V. (1979) 'Exchange Rates, International Liquidity and Economic Development', The World Economy, May, pp. 243-75.

- Kaldor, N. (1963) 'Taxation for Economic Development', in Livingston, I. (ed.) Economic Policy for Development (London, Penguin, 1971), pp. 313-32.
- Kaldor, N. (1964) 'Dual Exchange Rates and Economic Development', in Essay on Economic Policy, vol. II (London, Duckworth), pp. 178-298.
- Kaldor, N. (1977) 'The Effect of Devaluations on Trade in Manufacturing', in Current Issues in Applied Economics (London, Duckworth, 1978), pp. 99-116.
- Kalecki, M. (1955) 'The Problems of Financing Economic Development', Indian Econ. Rev., Feb., II(3), pp. 1-22, reprinted in Robinson, J. (ed.), Essays on Economic Development (the Harvest Press, Sussex, 1976), pp. 41-63.
- Kalecki, M. (1960) 'Unemployment in Underdeveloped Countries', Indian Jour. of Labour Economics, III, 2, July, reprinted in Ibid., pp. 17-19.
- Kalecki, M. (1963) 'An Outline of a Method of Construction of a Perspective Plan', in Kalecki, M. (ed.), Essays on Planning and Economic Development, vol. 1 (Warsaw, Centre for Research on Underdeveloped Economies), pp. 9-22.
- Kalecki, M. (1966) 'Forms of Foreign Aid: An Economic Analysis', Social Science Information 1, pp. 21-44, reprinted in Robinson, J., op. cit., pp. 64-97.
- Kalecki, M. (1967) 'Social and Economic Aspects of Intermediate Regimes', in Selected Essays on the Economic Growth of the Socialist and Mixed Economy (Cambridge, Cambridge Univ. Press, 1972), pp. 162-9.
- Kalecki, M. (1968) 'The Difference between Crucial Economic Problems of Developed and Underdeveloped Non-Socialist Economies', in Essays on Planning and Economic Development, op. cit., Vol. III, pp. 9-18.
- Kalecki, M. (1970) 'Problems of Financing Economic Development in a Mixed Economy', in Selected Essays on the Economic Growth, op. cit., pp. 145-59.
- Kalecki, M. (1971) Selected Essays on the Dynamics of the Capitalist Economy 1933-1970 (London, Cambridge Univ. Press).
- Kenen, P.B. (1972) 'Export Instability and Economic Growth', Kyklos, XX, pp. 791-803.
- Kianian, M.A. (1975) 'Barrasi Tabagrate Dar Amad Va Malial Dar Tehran, 1968-9' [A Research on Income Distribution and Taxes in Tehran] (Faculty of Economics, Univ. of Tehran, Research Ser. No. 13).
- Kuller, R. & Cummings, R.G. (1974) 'An Economic Model of Production and Investment for Petroleum Resources', Am. Econ. Rev., pp. 66-79.
- Kuznets, S. (1955) 'Economic Growth and Income Inequality', Am. Econ. Rev. 45, 1-28.
- Lall, S. (1975) 'Is "Dependence" a Useful Concept in Analysing Underdevelopment?', World Dev., 3, 11-12, pp. 799-810.
- Lambton, A.K.S. (1953) Landlord and Peasant in Persia (London, Oxford Univ. Press).

- Lanyi, M. (1975) 'Separate Exchange Market for Capital and Current Transaction', IMF Staff Papers, pp. 714-49.
- Laski, K. (1966) 'Factors Limiting the Rate of Growth in a Closed Model', in Problems of Economic Theory and Practice in Poland, vol. 2 (Warsaw, Warsaw Polish Scientific Publisher), pp. 65-111.
- Lawson, C.W. (1974) 'The Decline in World Export Instability: A Re-appraisal', Oxford Bull. Econ. & Stat., Feb., pp. 53-63.
- Leith, J.C. (1970) 'The Decline in World Export Instability: A Comment', Oxford Bull. Econ. & Stat., 3, pp. 267-72.
- Levin, J.V. (1960) The Export Economies, their Pattern of Development in the Historical Perspective (Cambridge, Harvard Univ. Press).
- Lipton, M. (1974) 'Confrontation versus Co-operation', Bulletin of Inst. of Dev. Studies, 6, 2, Oct, pp. 116-30.
- MacBean, A.I. (1966) Export Instability and Economic Development (London, George Allen and Unwin, Ltd.).
- Magdoff, H. (1976) 'Capital, Technology, and Development', Monthly Review, 27, 8, Jan.
- Mahdavi, H. (1970) 'The Pattern and Problems of Economic Development in Rentier States, the Case of Iran' in Cook (ed.) Studies in the Economic History of the Middle East (London, Oxford Univ. Press), pp. 428-68.
- Maizels, A. (1968) 'Review of MacBean', Am. Econ. Rev., LVIII, pp. 575-80.
- Mandel, E. (1976) 'Imperialism and National Bourgeois in Latin America', International, Spring, pp. 23-27.
- Markowitz, H. (1952) 'Portfolio Selection', Cowles Commission Papers, New Series, No. 60, The University of Chicago, Chicago, pp. 77-91, reprinted from The Journal of Finance, VII, March, pp. 77-91.
- Markowitz, H. (1959) Portfolio Selection: Efficient Diversification of Investment (New Haven & London, Cowles Foundation, F.R. Research in Economics at Yale University), monograph 16.
- Marx, K. (1964) Precapitalist Economic Formation, edited by Hobsbawm (London, Lawrence & Wishart).
- Massel, B.F. (1970) 'Export Instability and Economic Structure', Am. Econ. Rev., Sept., pp. 618-30.
- Mathieson, D. & McKinnon, R.I. (1974) 'Instability in Underdeveloped Countries: The Impact of International Economy', in Paul A. David and Melvine W. Reder (etc.), Nations and Households in Economic Growth (N.Y., Academic Press), pp. 315-31.
- McMichael, P. et al. (1974) 'Imperialism and the Contradiction of Development', New Left Review, 85, May-June, pp. 61-82.

- Mehran, F. (1975a) 'Taxes and Income: Distribution of Tax Burdens in Iran' (Geneva, International Labour Office; a working paper, no. WEP 2-23/WP 33).
- Mehran, F. (1975b) 'Income Distribution in Iran, the Statistics of Inequality' (Geneva, ILO Working Paper, WEP 2-23/WP 30).
- Michaely, M. (1958) 'Concentration of Exports and Imports: An International Comparison', Econ. Jour., Dec., pp. 722-36.
- Mikesell, R.F. (ed.) (1971) Foreign Investment in the Petroleum and Mineral Industries (London, John Hopkins Press), Chapter 1 and pp. 428-31.
- Mill, J.S. (1878) Principles of Political Economy (London, Longmans), vol. 1.
- Moren, T.H. (1973) 'New Deal or Raw Deal in Raw Materials', in Richard Cooper (ed.), A Reordered World: Emerging International Economic Problems (Washington), pp. 161-81.
- Morgan, D. (1979) 'Fiscal Policy in Oil Exporting Countries, 1972-78', Finance and Dev., Dec., pp. 14-17.
- Myint, H. (1958) 'The Classical Theory of International Trade and Underdeveloped Countries', Econ. Jour., 68, reprinted in I. Livingstone (ed.), op. cit. (see Kaldor, 1963), pp. 85-112.
- Myint, H. (1973) The Economies of the Developing Countries, 4th ed. (London, Hutchinson), Chapters 7 & 8.
- Myrdal, G. (1973) 'Causes and Nature of Development', Quarterly Jour. Econ. Research (Tabqiqat-e eqtesadi), X, 29, 30 (Winter and Spring), pp. 3-16.
- Myrdal, G. (1974) Against the Stream: Critical Essays on Economics (London, MacMillan).
- Nath, S.K. (1962) 'The Theory of Balanced Growth', Ox. Econ. Papers, 14, reprinted in Livingstone, op. cit. (see Kaldor, 1963), pp. 290-310.
- Naya, S. (1973) 'Fluctuations in Export Earnings and Economic Patterns of Asian Countries', Econ. Dev. and Cultural Change, XXI, 4, part 1, July, pp. 629-41.
- Nowshirvani, V. (1975) The Beginning of Commercial Agriculture in Iran (Economic Growth Center, Yale University, mimeo).
- O'Brien, P. (1972) 'On Commodity Concentration of Exports in Developing Countries', Economie Internazionale, XXV, pp. 697-717.
- Olivera, H.G.O. (1964) 'On Structural Inflation and Latin-American Structuralism' Ox. Econ. Papers, pp. 321-32.
- Osborne, D.K. (1976) 'Cartel Problems', Am. Econ. Rev., 66, 5, pp. 835-44.
- Oshima, H.T. (1972, 1973) 'Household Income and Expenditure Distributions and Rapid Economic Growth: Iran in the 1970's and 1980's' (mimeo, unpubl.). The expanded version of this paper is issued by ILO under 'Income Distribution', Mission Working Paper, No. 11, Employment and Income Policies in Iran, World Employment Program (Geneva, ILO).

- Pesaran, M.H. (1973) Trend of Income Distribution in Rural and Urban Iran (Teh. B.M.I., mimeo).
- Peterson, F.M. (1977) 'The Exploitation of Extractive Resources: A Survey', Econ. Jour., Dec., pp. 681-721.
- Riach, P.A. (1971) 'Kalecki's "Degree of Monopoly" Reconsidered', Australian Econ. Paper, June, pp. 50-60.
- Rollins, C.E. (1959) 'Mineral Development and Economic Growth', Social Research, Autumn, pp. 253-80.
- Rosenstein-Rodan, P.N. (1943) 'Problems of Industrialisation of Eastern and South-Eastern Europe', Econ. Jour., June-Sept. reprinted in Agarwala and Singh, The Economics of Under-Development (London, Oxford Univ. Press, 1963), pp. 245-55.
- Rosenstein-Rodan, P.N. (1961) 'Notes on the Theory of the "Big Push"', in H.S. Ellis & H.C. Wallich (eds), Economic Development for Latin America (London, MacMillan), pp. 57-67.
- Sachs, I. (1964) Foreign Trade and Economic Development of Underdeveloped Countries (London, Asia Publishing House).
- Sadigh, P. (1975) 'Impacts of Government Policies on the Structure of Iranian Industry' (London University: Ph.D. Thesis).
- Samuelson, P. (1969) 'General Proof that Diversification Pays', Jour. of Financial and Quantitative Analysis, No. 2, pp. 537-42.
- Scitovszky, T.D. (1942) 'Reconsideration of the Theory of Tariffs', Rev. Econ. Stud., Summer, pp. 89-110.
- Scitovszky, T.D. (1954) 'Two Concepts of External Economies', Jour. Pol. Econ., reprinted in Agarwala, op. cit. (see Rosenstein-Rodan 1943), pp. 295-308.
- Seers, D. (1959) 'An Approach to the Short-Period Analysis of Primary Producing Economies', Ox. Econ. Paper, 11, 1, Feb., pp. 1-39.
- Seers, D. (1962) 'A Theory of Inflation and Growth in Under-Developed Economies Based on the Experience of Latin America', Ox. Econ. Papers, June, pp. 173-95.
- Seers, D. (1963a) 'The Limitation of the Special Case', Bull. Ox. Inst. Econ. & Stat., 25, 2, May.
- Seers, D. (1963b) 'The Stages of Economic Growth of a Primary Producer in the Middle of the Twentieth Century', in Robert Rhodes (ed.), Imperialism and Underdevelopment (New York, London, Monthly Review Press, 1970), pp. 163-80.
- Seers, D. (1964) 'The Mechanism of an Open Petroleum Economy', in Social and Economic Statistics, 13, 2, June, pp. 233-42.
- Seers, D. (1969) 'A Step towards a Political Economy of Development; Illustrated by the Case of Trinidad & Tobago' in Social and Economic Studies, 18, 3, Sept., pp. 217-53.

- Seers, D. (1972) 'What are we Trying to Measure?' Jour. Dev. Stud. (Special Issues on Development Indicators), 8, 3, pp. 21-23.
- Seers, D. (1978) 'The Life Cycle of a Petroleum Economy', mimeo.
- Shafaeddin, S.M. (1971) Eqrtesadi Ghala va nan Dar Iran / Economics of Wheat and Bread in Iran (Teh. Univ., Faculty of Economics, Research Ser. Nos 1, 2).
- Singer, H.W. (1950) 'The Distribution of Gains Between Investing and Borrowing Countries', Am. Econ. Rev., paper and proceedings, May, pp. 473-85.
- Smith, A. (1910) The Wealth of Nations. Introduction by Seligman, R.A. (London, J.M. Dent & Sons Ltd.).
- Solow, R. (1974) 'The Economics of Resources or the Resources of Economics', Am. Econ. Rev., May, pp. 1-14.
- Streeten, P. (1959) 'Unbalanced Growth', Ox. Econ. Paper, June, pp. 167-90.
- Streeten, P. (1964) Economic Integration: Aspects and Problems (Netherlands, Sythoff-Leyden).
- Streeten, P. (1972) 'The Developing Countries in a World of Flexible Exchange Rates', in The Frontiers of Development Studies (London, MacMillan), pp. 246-53.
- Streeten, P. (1973) 'The Multinational Enterprise and the Theory of Development Policy', World Dev., 1, 10, Oct, pp. 1-15.
- Streeten, P. (1974) 'Alternatives in Development', World Dev., 2, 2, Feb, pp. 5-8.
- Streeten, P. (1975) An Outline for Possible Studies in Depth of the Diversification Problems of Selected Developing Countries, mimeo, unpub.
- Streeten, P. (1976) 'The Dynamics of the New Poor Power', in G.K. Helleiner, op. cit., pp. 77-88.
- Streeten, P. & Elson, D. (1971) Diversification and Development: The Case of Coffee (New York, Praeger Publishers).
- Sutcliffe, B. (1972) 'Imperialism and Industrialisation in the Third World', in R. Owen and B. Sutcliffe (eds), Studies in the Theory of Imperialism (London, Longman), pp. 171-92.
- Tobin, J. (1958) 'Liquidity Preference as Behaviour towards Risk', Rev. Econ. Stud., 25, Feb., pp. 65-86.
- Tobin, J. (1965) 'The Theory of Portfolio Selection', in F.H. Hown & F.P.R. Breckling, The Theory of Interest Rate, proceedings of a conference held by the International Econ. Association (London, MacMillan), pp. 3-51.
- Tsiang, S.C. (1972) 'The Rationale of the Mean-Standard Deviation Analysis, Skewness Preference, and Demand for Money', Am. Econ. Rev., pp. 354-71.

- UNCTAD (1970) Diversification, mimeo, Document No. TD/B/C1/84.
- UNCTAD (1971a) Diversification and Economic Development, mimeo, Document No. TD/B/348.
- UNCTAD (1971b) Diversification, Proposal for Action and for Further Studies, mimeo, Document No. TD/B/C/114.
- UNCTAD (1972) Commodity Problems and Policies, Diversification, mimeo, Document No. TD/119.
- UNCTAD (1974) Country Studies on Export Diversification: A Suggested Outline, mimeo, Document No. TD/B/C1/173.
- Vaitsos, C.V. (1975) 'Power, Knowledge and Development Policy: Relations Between Transnational Enterprises and Developing Countries', in G.K. Helleiner, op. cit., pp. 147-76.
- Vernon, R. (1970) 'Foreign Enterprise and Developing Nations in the Raw Material Industries', Am. Econ. Rev., papers and proceedings, pp. 122-6.
- Warren, B. (1973) 'Imperialism and Capitalist Industrialisation', New Left Review, Sept.-Oct., pp. 3-44.
- Wickramasinghe, W. (1976) 'The Case of a Dual Exchange Rate Policy: A Marriage Between Theory of Exchange Rate and Theory of Innovations', World Dev., May, pp. 427-34.
- Wriggins, H. (1973) 'Some Thoughts on International Bargaining', mimeo.
- Yamazdiva, I. (1971) 'Structural Change in World Trade Flows', Histosubashi Journal of Economics, 1, 2, pp. 11-21.
- Yeganeh, M. (1971) 'The Tehran Oil Negotiations', Quarterly Jour. of Economic Research (Tahqiqale eqtesadi, III, 23 & 24, pp. 33-52.
- Zartman, W. (1967) 'Africa as a Subordinate State System in International Relation', International Organisation, Summer, pp. 545-64.

B. Official Sources

- Bank Markazi Iran, Gosareshē Salana [Annual Reports], and Monthly Bulletins.
- B.M.I. (1971) 'Gozaresh Toolide Gooshtē, 1967-78' [A Report on Meat Production] (mimeo, unpub.).
- B.M.I. Daramadē Meli Iran, 1959-71 [National Income of Iran] (Teh. 1973).
- B.M.I. (1973) 'Varedat va saderatē Mahsulate Keshavarzi 1962-72' [Imports and Exports of Agricultural Commodities] (mimeo, unpub.).
- B.M.I. (1977) 'Barrasi varedatē va Saderatē Mahsulate Keshavarzi va Mavade Ghazaie Dar 1973-76' [A Study of Imports and Exports of Agricultural Commodities and Food Items] (mimeo, unpub.).

- B.M.I. (1978) Baravardē Niazē Etebaratē Keshavarzi dar Iran [An Estimate of Agricultural Credit Requirements] (mimeo, unpub.).
- B.M.I. Archives of the National Accounting Section and the Statistical Section.
- Grain, Sugar and Tea Organisation of Iran. The archives of the General Record Office and the Statistical Bureau.
- Markaze Amare Iran [The Statistical Centre of Iran], Salnamah, Amari, 1973 and 1976 [Statistical Yearbook].
- M.A.I. Natayegē Amar Giriē Budgah Khanavarhayē Shahri [Family Budget Survey of the Urban Areas], 1972, 1973 and 1975.
- M.A.I. National Census of Population and Housing, Nov. 1976, based on 5% sample [5% sample of the National Census ...] (Teh. 1977).
- M.A.I. Netaiegē Amar Girie Az Bakhshē Keshavarzi 1971, 1972, 1973 and 1976 [Agricultural Sample Survey].
- M.A.I. Natayegē Amargiri Niruiē Ensani [Manpower Survey], 1972 (Teh., Ser. No. 357, 1974).
- M.A.I. Foreign Trade Statistics for 1975 (Series No. 762, p. 2).
- M.A.I. Natayege Sarshemarye Az Kargahaye Bozorgē Sanati [Census of Large Industrial Establishments], 1971, 1972, 1973 and 1976, Series Nos. 348, 742, 767 and 782.
- M.A.I. 'Baravardē Arzeshe Afzudahē Bakhshē Keshavarzi dar Sal, 1351' [An Estimate of Value Added in Agriculture for 1972] (Directory of Financial Statistics and National Accounting, unpub.).
- M.A.I. (1976) 'Baravardē Moghadamati Hesabhayē Meli 1971-74' [A Preliminary Estimate of National Income] (mimeo, unpub.).
- The Iranian Meat Organisation. Archives of the General Record Office.
- Ministry of Agriculture (1970) 'Bavavordē Hazinahe Toolid Dar Bakhshē Keshavarzi' [An Estimate of Costs of Production in the Agricultural Sector] (mimeo, unpub.).
- Ministry of Industry & Mining. Amarē Sanatie Iran [Industrial Statistics], 1967 - ... 1973.
- M.I.M. Amare Sanaye Bozorgē Iran [Census of Large Industrial Establishments], 1967 and 1973.
- M.I.M. Amarē Zamani Kalahayē Sanati Iran [The Trends in Industrial Products], 1977.
- Plan Organisation. Outline of the Third Plan, 1962-76 (Teh., Planning Division, 1965).
- P.O. 4th National Plan, 1968-72 (Teh., 1968).
- P.O. 3rd Development Plan, Final Report (Teh., 1970).

- Plan & Budget Organisation. Iran's 5th Development Plan, 1973-78, A Summary (Teh., 1973).
- P.B.O. Barnamahe Pangom Omrani Keshvar, 1973-77 (Teh., 1972) [The Text of the Fifth Plan].
- P.B.O. Iran's 5th Development Plan, 1973-78, Revised, A Summary (Teh., P.B.O., 1975).
- P.B.O. The texts of Annual Budget Acts.
- U.N. Stat. Year Book, 1973, 1975.
- U.N. Yearbook of National Accounting, 1977.
- Vezavatē Amuzash va Parvavesh [Ministry of Education], Amarē Amuzesh va Parvavesh, 1975-76 [Statistics of Education] (Teh., 1977).
- Veazarate Niroo, Sanatē Barghē Iran, 1976, 1977 [Electric Power Industry].

Addendum

References missing from the bibliography:

- Hindess, B., and Hirst, P. (1975), Pre-Capitalist Modes of Production (London, Routledge & Kegan).
- Mikdashi, Z. (1972), The Community of Oil Exporting Countries, A Study in Governmental Co-operation (London, George Allen & Unwin).
- Nahai, L. and Kimbell, C.L. (1963), The Petroleum Industry of Iran, U.S. Dept of the Interior, Information Circular 8203.
- Parra, F.R. (1975), The Pricing of Oil in International Market, Supp. to MEES, 17 Oct.
- Vallenilla, L. (1975), Oil: the Making of a New Economic Order, Venezuelan Oil and OPEC (N.Y., McGraw-Hill Book Company).