

MILITARY EXPENDITURE AND THE GROWTH OF THE TURKISH

ECONOMY 1952-80

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ABSTRACT

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by R.I. AYRES

Turkey with one of the fastest growing economies in the world but a per capita income only about one seventh of that for the industrialised world has allocated approximately 5 per cent of her gross domestic product to defence since 1952. There is evidence that the level and form of military expenditure has been determined not only by internal and external security factors but also by the ideological function of the military which is closely related to its integration into the sphere of production. There is no evidence of military expenditure having been used as a tool of economic policy to control inflation or unemployment. Turkish military expenditure also needs to be understood in relation to U.S. foreign policy, and in particular through the conditions attached to the flows of military and economic aid. Militarism has been instrumental in shaping the form of industrialisation in Turkey and helped maintain the free unregulated conditions under which foreign capital could operate. One of the consequences of the Turkish path to development has been to create a long term dependency on imports of capital goods and raw materials which ultimately constrained growth in the mid-1970s. Arms production in Turkey cannot be a vehicle for industrialisation since domestic linkages would be limited and one form of dependency would be replaced by another. The links between military expenditure and economic growth are theorised in terms of resource mobilisation and resource diversion which are then estimated by two-stage least squares in a series of equations in which the rate of growth is treated as a function of both exogenous and endogenous variables in a dynamic simultaneous system. The results indicate that the impact of military expenditure is transmitted to the economic structure through both direct and indirect channels and that over the period 1952-76 increases in the military burden have been associated with a lower rate of economic growth.

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CHAPTER 1

INTRODUCTION

The main purpose of this study is to examine the relationship between defence and the growth of the Turkish economy in the period 1952 to 1980. Before we do so, it is instructive to examine the general literature on the relationship between war, arms production and economic development. Before 1962 most of what had been written on this was characterised by partial analysis and was based on purely casual empiricism. Adam Smith (1776)¹ was one of the first to analyse defence when in Book V of the Wealth of Nations he presented a treatise on public finance and developed his ideas on what he regarded as the legitimate forms of public expenditure. "The first duty of the sovereign, that of protecting the society from the violence and invasion of other independent societies, can be performed only by means of a military force." Adam Smith argued that in the more advanced and civilised societies a standing army became necessary and this needed to be financed by public funds. As wars became more drawn out it was impossible for soldiers to contribute to civil activity and as the 'art of war' grew to be a very "intricate and complicated science" specialisation and division of labour made a permanent army more effective. Smith stressed that the cost of defending a country became more expensive as more advanced arms were developed, and this gave a clear advantage

to those nations that could afford the expense. The main criticism of Smith's treatment of defence is that he does not question the need for a permanent army and as a consequence there is no analysis of the economic effects of military spending.

The influential German historian Sombart (1913)² deliberately ignored the destructive aspects of modern war on the grounds that these were obvious and had already received much attention, and instead set out to emphasise the 'constructive' side of war. His argument was that the growth in the size of armies and the cost of providing arms, particularly after the gun came to dominate war, made it necessary to organise production in large scale enterprises and played a prominent role in the rise of modern capitalism. War promoted large-scale industry both directly and indirectly. Not only were the new armaments produced on a large scale, but the demand for supplies of ore and metal stimulated the metallurgical industries, which were also more efficient in larger and more expensive establishments employing a large number of workmen.

Sombart's thesis that war and development are linked through the rise of capitalism is incomplete and prejudiced. His views were coloured by the fact that during his lifetime Germany had always been the aggressor invading other territory and had not had to suffer the havoc of war on German soil. There is no attempt to consider the importance of other non-military demands for the changing forms of industrial organisation and the progress of capitalistic mining and manufacturing. More importantly it is not possible to consider the economic consequences of arms production in isolation from the consequences

of war. Furthermore, in terms of historical accuracy Sombart may have been wrong in dating the origins of large-scale production with the general use of firearms and explosives.

The American economic historian Nef (1950)³ in his study of war and human progress argued that peace contributed far more than war to the development of large-scale capitalism, but he was against using this as the only explanation of economic advance. Nevertheless in periods of limited warfare when tension between states was lessened Nef observed a speeding up of industrialisation. This was partly because the markets for many products expanded in peace time and partly because international peace and stability facilitated the growth of foreign trade.

The distinguished British economic historian, Sir John Clapham,⁴ writing in the 1930's reaches a similar conclusion to Nef, namely that in the period of the 'long peace' (1815-1914) it was precisely because of the absence of devastating wars that economic development was able to take place. War held back industrialisation as great industries were crippled or destroyed, populous cities completely ruined and wide stretches of land deprived of cultivation. The end of war generally brought about an unloosing of economic forces, which along with other factors, resulted in economic development.

Einzig, a widely read economist-cum-journalist, was concerned with a different problem, namely rearmament in the context of mass unemployment.⁵ In many ways his analysis was more advanced than earlier writers since he recognised that

military expenditure was on the one hand 'wasteful' but on the other hand it created employment, although the full effects of rearmament needed to take into account how it was financed, the monetary repercussions and the consequences for trade. On balance Einzig came down in favour of rearmament as a short-run solution to unemployment and pointed to the experience of Germany and Japan who had based their economic recovery on increased armaments expenditure. He was fully aware of the waste of labour and natural resources that this policy entailed but he believed that there was an element of truth in Stalin's view that capitalist countries could only achieve economic recovery by rearmament, as long as governments were unwilling to go against economic orthodoxy and expand public works.

Keynes (1936)⁶ took a similar theoretical line to Einzig when he argued that the costs of 'involuntary' unemployment might mean that 'wasteful' loan expenditure could enrich the community on balance. "Pyramid-building, earthquakes, even wars may serve to increase wealth if the education of our statesmen on the principles of the classical economics stands in the way of anything better." Wars have often been the only form of large-scale loan expenditure which statesmen have thought justifiable, yet "this has played its part in progress in the absence of something better". Keynes recognised that it would be more "sensible to build houses and the like, but if there were practical difficulties in the way of this" then war and rearmament "would be better than nothing."

In 1962 the United Nations Report on the 'Economic and Social Consequences of Disarmament'⁷ marked the beginning of a period during which the economic consequences of war, military expenditure and disarmament have been studied more systematically. The 1962 Report was mainly concerned with the consequences of disarmament and concluded that it was desirable, since it reduced the danger of war, released resources that could be used in the development effort and made economic management easier. The Report also considered the burden of military expenditure and recognised that it absorbed manpower, foreign exchange, education, training, raw materials and fuel, which could have been used for economic progress. It was also emphasised that disarmament would permit the developed countries to transfer more resources to the less developed countries (L.D.C.s) in the form of economic aid and it was implicitly assumed that this would stimulate growth.

In 1970 the United Nations (U.N.) took up the issue of arms once again when it adopted a resolution which asked the Secretary General to prepare a report on the economic and social consequences of the arms race and military expenditure. The Report⁸ was presented in 1972 and argued that disarmament would contribute to economic and social development through the promotion of peace and a relaxation of international tensions as well as through the release of resources for peaceful purposes. It was stressed that international exchange would be encouraged - trade, capital, knowledge, technology - and

once again that the giving of economic aid could be made easier and help to close the gap between the rich and poor nations.

Another report⁹ followed in 1977 which also stressed the enormous volume of men and resources devoted to military purposes and thus withheld from civilian production. This report also distinguished between conditions of full employment and under-full employment and emphasised that even in the latter case military expenditure could aggravate inflation and the trade balance thus making economic management more difficult. It was argued that the arms trade had opposite effects on the economies of importing and exporting countries and resulted in unequal exchange which was detrimental to the development effort of L.D.C.s since it represented a pure waste of economic surplus. In conclusion the report emphasised the multiplicity of adverse consequences in all aspects of social life for those countries participating in the arms race.

In spite of the fact that disarmament and development have been major issues that have occupied the international community since the Second World War it was not until after the 1962 U.N. Report that the two were treated as if they had anything in common. Yet for many L.D.C.s¹⁰ military expenditure has been large and growing and inevitably has had repercussions on the process of development.

Notwithstanding the secrecy and distortion surrounding much of the data on military activity it seems important to analyse the consequences of military expenditure for economic

growth and development. This study will examine the relationship between defence expenditure and the economic growth of Turkey in the period 1952 to 1980, although for estimation purposes the shorter period 1952 to 1976 will be considered, since the latter date was the latest year that complete data was available when the regression analysis was carried out. There are two reasons for selecting 1952 as the starting point for the study. Firstly, data on military expenditure and related military variables are not so readily available and are less reliable before the early 1950s. Secondly, 1952 was the year that Turkey formally acceded to the North Atlantic Treaty, so that by taking this as the starting point the study concentrates on the period during which Turkey has been a full member of N.A.T.O. Nevertheless it is impossible to understand the period 1952-80 in isolation from earlier periods and frequent reference is made to economic, social, political and military developments between 1923-52.

There are several good reasons for singling out Turkey for studying the effects of military expenditure on economic growth. Firstly, the military authorities in Turkey have taken over government on three occasions since 1952 - 1960 to 1961, 1971 to 1973 and 1980 to present - and the total influence of the military in economic, social, industrial, political and ideological matters has been far reaching. Secondly, Turkish military spending has been substantial since the end of the Second World War, and after 1960 she consistently allocated a larger proportion of gross domestic product (G.D.P.) to

defence than all N.A.T.O. countries apart from the U.K., the U.S.A. and Portugal in spite of the fact of having the lowest per capita income. Turkish military spending doubled between 1960 and 1974 and then doubled again by 1976 due to the invasion of Cyprus and the threat of war with Greece. In 1977 military expenditure was nearly twice the level of spending on education and eight times the spending on health and social welfare.

Thirdly, Turkey's growth performance has been impressive in terms of G.D.P./G.N.P. although in terms of per capita income less so. There has always been a foreign exchange problem and in the 1970s after the U.S. arms embargo and increased military expenditure the external debt position deteriorated rapidly and growth declined. Not only was there an economic crisis in the 1970s but also a political crisis as the country headed towards civil war.

Fourthly, the question of the role of the military in Turkey and its contribution to the economic development of that country has wider implications given the strategic importance of Turkey within N.A.T.O., particularly since the Iranian revolution in 1979 and the events in Afghanistan more recently. Turkey is a member of the Council of Europe, O.E.C.D., G.A.T.T., an associate member of the E.E.C., as well as being a member of N.A.T.O., so what goes on within Turkey is of vital interest to Western countries. Moreover, recent moves to limit the growth of strategic arms raises once again the issue of the enormous cost of military expenditure, not only for Turkey, but for all countries.

Clearly it is important to consider what contributions the military makes to the development of a country, and it may be many, since military activity covers a diverse set of tasks. It is necessary to examine the linkages between military expenditure and other sectors of the economy and to determine whether, or to what extent, military activity can be considered a leading sector and a force for modernisation. Pye (1962) and Janowitz (1964) have argued for several reasons that the military as a modern institution possesses characteristics which make it the organisation most likely to be an agent for modernisation. However, given resource limitation there is an opportunity cost of military spending. Resources devoted to defence cannot be used for consumption or investment. Furthermore, the need to pay for military requirements may revolutionise governmental finances, generate inflation, affect the balance of payments, increase international indebtedness and make economic control more difficult. A vital question is whether military expenditure hinders or generates economic growth on balance. In spite of the conclusions reached in the various U.N. reports a study of the literature reveals that the relationship between military expenditure and economic growth is not so clear cut and it is difficult to make generalisations, since the military as an organisation needs to be analysed in terms of the particular society in which it operates and military expenditure can only be fully understood with reference to the international arms economy. Given the intervention of the military in Turkish politics it is also important to consider the role of the

military in shaping and influencing the structure of power within the country and how this relates to the particular form of development.

Much of the earlier work on the relationship between military expenditure and economic growth, including the very influential study of 44 L.D.C.s by Benoit (1973), has been based on cross section analysis. The main criticism of this approach is that a dynamic relationship (between military expenditure and economic growth) is estimated by using a static analysis, and although the evidence may be interesting and important, great care must be taken in drawing conclusions. There is need therefore to analyse the relationship between the burden of defence spending and the rate of growth of output for particular countries using time series analysis, and this is done for Turkey in this study. Benoit's most important finding was a positive relationship between the share of G.D.P. allocated to defence and the rate of growth of non-defence output or civilian G.D.P. The relationships specified in Benoit's study were estimated with ordinary least squares, yet when the rate of growth is assumed to be a function of both exogenous and endogenous variables in a dynamic simultaneous system, as it is in his study, then ordinary least squares are no longer legitimate. In this study of Turkey the links between military expenditure and economic growth are estimated by two-stage least squares in a series^{of equations} in which the rate of growth is treated as a function of both exogenous and endogenous variables. The results indicate that increases in the proportion of G.D.P.

allocated to defence have been associated with a lower rate of economic growth.

The present study begins with an outline of the growth and development of the Turkish economy in the post-war period, which is given in Chapter 2. In spite of considerable economic growth up to the mid 1970s Turkey has suffered from a permanent foreign exchange problem, high levels of unemployment and rising inflation which eventually imposed constraints on economic growth. The chapter ends by considering wider aspects of development and relates them to the economic performance of the country.

Chapter 3 initially looks at the sources of military data and assesses its reliability, and then goes on to detail the growth of Turkish military expenditure which is considered in relation to the allocation of domestic resources and world military expenditure. Chapter 4 looks at explanations of the growth of military expenditure and tries to assess the validity of the various theories examined.

Chapter 5 outlines the dimensions of Turkish arms production and considers the likely economic consequences of the country pursuing a policy of military self-sufficiency. In particular an attempt is made to determine the extent to which arms production as a form of import substituting industrialisation would generate backward linkages and help unemployment. Chapter 6 accounts for the growth of the arms trade and considers the consequences for the Turkish balance of payments. Economic and military assistance are viewed as complementary and analysed

as instruments of U.S. leverage. The chapter concludes with an assessment of the links between military aid and trade, external finance of the Turkish economy and the pattern and form of development.

Chapter 7 reviews the literature on the relationship between military expenditure and economic growth and development, and then proposes certain equations which are used to estimate the effect of military expenditure on economic growth. Finally, Chapter 8 tenders some concluding comments on the issues raised by military expenditure and how this affected Turkey in recent years.

CHAPTER 2

GROWTH AND DEVELOPMENT OF THE TURKISH ECONOMY

Introduction

During the nineteenth century while Western Europe was undergoing an industrial revolution, Turkey remained economically backward, became known as the 'sick man' of Europe, and suffered from the maladministration of the decaying Ottoman Empire. The Ottoman rulers did not accept responsibility for the state of health of the economy, but through the system of 'capitulations' conferred special privileges on foreigners which permitted them to dominate economic activity. Foreigners were given the right to be tried in special courts under foreign jurisdiction, and either paid very low or zero tax and import duties. Furthermore, foreign banks, the most important of which was the Franco-British owned Ottoman Bank, operated within the Turkish Empire under the laws of their own country, and controlled Turkish finance.

When the Turkish Republic was founded in 1923 the economy was backward and the potential of its natural wealth was barely touched. The Lausanne Treaty of 1923 imposed certain restrictions on Turkey, one of which required the government to hold tariffs constant for a period of six years, thus leaving the Turkish economy open to foreign trade just as it had been prior to 1914.

Foreign trade was still largely under the control of foreign firms, mainly British, German, French and Italian, and finance was still dominated by foreign capital. The first few years of the Republic were devoted to modernising Turkish life, which included establishing secular authority, the emancipation of women and the replacement of the Arabic with a modified Latin alphabet.¹ After a few years of economic reconstruction during which time the transport system was nationalised but per capita income barely changed (Hershlag, 1968),² the Turkish economy was hit by the world economic crisis, which saw agricultural prices plummet. The trade balance deteriorated sharply in 1928-29 and foreign capital flows virtually ceased which led Turkey to impose import tariffs and exchange control, but a bad harvest in 1932 gave a clear indication that fundamental changes were required if Turkey was to speed up development.

Etatism³

From 1933 the Turkish response to the world depression was to become protectionist and from behind the tariff barrier to institute a plan for industrialisation that would pave the way for an independent national capitalism. Foreign trade was to be strictly controlled and imports of intermediate and manufactured goods were to be replaced by domestic production. A five year plan for industrialisation was introduced under the charge of a state controlled Central Bank, and a prime role was given to

state enterprise. The plan envisaged the establishment of several industries utilising domestic raw materials. In this period of industrialisation there were clear elements of a non-capitalist path to development but the underlying ideology was Western (Keyder, 1979).⁴

The period of state enterprise and planning led to an increase in industrial production of 80 per cent between 1929 and 1938 (Eldem, 1947-48),⁵ largely as a result of a concentration of fixed investment in the state sector and industry. Eldem (1946-47)⁶ has calculated that 40 per cent of all fixed investment in the period 1933-40 was in the state sector (including rail transport and road construction) and a further 23 per cent in industry (including state enterprises and electricity); while only 11 per cent went into agriculture.

During the War period the Turkish economy became closely geared to Germany through trade, but nevertheless it was still dominated by state planning. Agriculture, which had been largely ignored by the state in the 1930s, continued to stagnate and after mobilisation agricultural production and incomes fell, which left the vast mass of the population impoverished. In the immediate post-war period the economic controls were relaxed, but one of the consequences was that the balance of trade, which had been in surplus for fifteen years, began to deteriorate and this led the government to devalue the lira, although this had the effect of fuelling domestic

inflation.⁷ National income was almost 22 per cent higher in 1948 than in 1938, but the rise in population meant that per capita income was only 4.2 per cent higher,⁸ and still extremely low by European standards. Moreover income was still very unequally distributed with the average rural income only half of the average urban income.

One very important development in the post-war period was that the ruling Republican Peoples Party (R.P.P.) allowed an opposition party, the Democratic Party (D.P.) to be formed, and it was this rival party under Adnan Menderes that was elected to power in 1950. Political developments since 1950 have had an enormous influence on economic growth and the period breaks up into three distinct phases separated by the military interventions of 1960 and 1971.

Liberal Phase, 1950-60

The D.P. was elected to power in 1950 on a programme which promised to halt the expansion of state enterprise, to reverse the decline of the agricultural sector and to encourage private enterprise within a free market. The expected decline in the public sector did not take place. Land (1970)⁹ shows that the share of value added in Turkish industry originating in state economic enterprises (Sees) increased from 37 per cent in 1950 to 48 per cent in 1960. This was partly because no private interests wanted to buy the unprofitable Sees

whereas there was considerable political pressure exerted against selling profitable ones.

Beginning in 1950 the Turkish economy experienced a boom which continued until 1953 and was based on an enormous expansion of agricultural production. Agricultural prices were rising, partly because of the boom created by the Korean War, but also because of deliberate government policy in Turkey of assuring high prices to farmers through state purchases. As agricultural prices went up, more land was brought under cultivation, with the area expanding by more than 50 per cent between 1950 and 1954. Production of cereals alone increased by nearly 50 per cent between 1948-53 mainly because of the extension of area, but there was also the influence of unusually good weather and the productivity effect of 35,000 new tractors in use in the period 1950-53, many of them financed by U.S. aid and sold to farmers on liberal credit terms.¹⁰ Land reform made hardly any contribution to the increased production and the industry remained dominated by many small to medium sized firms.

In the space of four years, 1948-52, national income rose by 32.7 per cent and per capita income by 21.1 per cent. The boom in agriculture was vital to the growth of the Turkish economy and the agricultural export surplus provided much of the foreign exchange for the substantial imports of machinery, equipment and raw materials that fed the infant industries. Nevertheless imports still exceeded exports in this period although

the trade deficits did not create immediate problems owing to the ease with which foreign credits could be obtained. After 1953, however, the agricultural boom came to an end as a series of crop failures caused production to fall, as is shown in Table 2.1. It was not until 1957 that agricultural production reached the level of 1953. In spite of the fact that industrial output rose by 9.2 per cent in 1954 G.D.P. declined by 2.9 per cent that year because the share of agriculture in G.D.P. was approximately 50 per cent.

The end of the agricultural boom had several consequences. In the very short run there was the danger of food shortage in Turkey as the export surplus disappeared but this was avoided by U.S. economic assistance to Turkey under Public Law 480. Under this arrangement the U.S. sold agricultural commodities, mainly grains and oilseeds, to Turkey and agreed to be paid in local currency for the bulk of the shipments. The deal, which was to become a permanent feature of U.S. - Turkish relations right through to the 1970s, suited the U.S. since part of its vast agricultural surplus was disposed of, but also alleviated the Turkish demand for precious foreign exchange. More long term the failure of agriculture and the world wide decline in primary product prices led to a change of direction in domestic investment. In the period 1951-53 34 per cent of total gross fixed investment was in agriculture, but this had declined to 23 per cent by 1955. The expanded industrial investment after 1953 largely went into

TABLE 2.1

The Growth Performance of the
Turkish Economy, 1950-78
1968 prices, yearly percentage changes

<u>Year</u>	<u>Agriculture</u>	<u>Industry</u>	<u>G.D.P.</u>
1950	10.9	9.3	9.4
1951	19.8	2.6	12.8
1952	9.5	10.9	12.0
1953	8.7	19.2	11.2
1954	-13.9	9.2	-2.9
1955	9.8	11.3	8.1
1956	5.0	9.6	3.3
1957	6.5	10.7	7.9
1958	9.2	5.6	4.6
1959	0.3	3.6	4.6
1960	2.3	0.4	2.9
1961	-4.9	11.7	1.7
1962	5.0	3.5	6.1
1963	9.0	12.0	9.4
1964	-0.4	11.2	4.1
1965	-3.9	9.5	2.6
1966	10.7	15.2	11.7
1967	0.1	8.2	4.5
1968	1.5	11.1	6.7
1969	1.2	12.0	5.3
1970	2.3	0.4	4.9
1971	13.2	9.0	9.1
1972	-0.5	10.3	6.6
1973	-10.0	12.1	4.4
1974	10.3	7.7	8.8
1975	10.4	9.0	7.8
1976	3.9	10.7	8.1
1977	-1.2	-1.0	4.0
1978	3.4	2.4	3.1

Source: 1950-76 Turkish Industrialists

and Businessmen's Association, Turkey:
An Economic Survey, 1977, Table 39.
1977-78 International Financial Statistics,
No. 9, 1980.

Note: for 1977 and 1978 the third column
gives G.N.P. not G.D.P.

sectors like textiles and food that were processing
domestically produced primary products.

The decline in agriculture and the deterioration of
the terms of trade also had repercussions through the
effect on the balance of payments. After 1954 short-
term foreign credits were difficult to obtain and reserves
of foreign currency were inadequate, yet Turkey required
essential imports of machinery, intermediate goods and
industrial raw materials. With the trade balance
permanently in deficit, as is shown in Table 2.2, the
government introduced strict import licensing and foreign
exchange control to limit imports to necessary industrial
goods. As a result machinery and raw materials accounted
for 83 per cent of imports in 1960, up from 67.3 per cent
in 1955.¹¹ The domestic counterpart to the restriction
of imports was the import substitution policy, such as
the manufacture of cotton textiles directed mainly
towards the home market, which was facilitated by the
road building programme of the early 1950s. Whereas in
1952 imports were 11.6 per cent of G.N.P. they were only
3.8 per cent in 1957, but exports declined in a similar

TABLE 2.2

Turkish Imports and Exports 1950-78T.L. million, current pricesand as percentage of G.N.P.

<u>Year</u>	<u>Imports</u> ¹	<u>Percentage</u>	<u>Exports</u> ²	<u>Percentage</u>
1950	967	9.3	853	8.2
1951	1,129	9.2	883	7.2
1952	1,557	11.6	1,016	7.6
1953	1,491	9.6	1,109	7.1
1954	1,339	8.4	938	5.9
1955	1,393	7.3	877	4.6
1956	1,141	5.2	854	3.9
1957	1,112	3.8	967	3.3
1958	882	2.5	692	2.0
1959	1,316	3.0	991	2.3
1960	2,214	4.7	1,721	3.7
1961	4,585	9.3	3,121	6.3
1962	5,600	9.7	3,431	6.0
1963	6,212	9.3	3,313	5.0
1964	4,878	6.8	3,697	5.2
1965	5,193	6.8	4,147	5.4
1966	6,522	7.1	4,415	4.8
1967	6,217	6.1	4,701	4.6
1968	6,934	6.2	4,468	4.0
1969	6,786	5.4	4,832	3.9
1970	10,348	7.0	6,408	4.4
1971	17,725	9.2	9,090	4.7
1972	22,346	9.3	11,876	4.9
1973	29,977	9.7	18,038	5.8
1974	53,362	12.5	21,197	5.0
1975	68,987	12.9	20,075	3.7
1976	82,941	12.8	30,768	4.7
1977	104,882	12.1	31,338	3.6
1978	113,290	8.8	55,358	4.3

Notes: ¹ C.I.F.² F.O.B.

Sources: Monthly Economic Indicators,
Ministry of Finance, Ankara; Statistical
Yearbook of Turkey 1973, Ankara, 1974;
U.N. Yearbook of International Trade Statistics,
1979, New York, 1980.

manner, so that the trade balance, was in deficit throughout the 1950s and Turkey had to rely on foreign aid and borrowing to finance the gap. In the period 1950-53 G.D.P. had grown at an average rate of over 11 per cent but for the rest of the decade it was nearer 4 per cent.

1958 was a crisis year for the Turkish economy. The currency was over-valued, inflation had reached 40 per cent, with exports declining the external payments position was extremely grave and the problem of servicing and repaying foreign loans was proving impossible. The Turkish government responded by devaluing the lira, from 2.8 T.L. to 9.0 T.L. to the U.S. dollar between 1958 and 1960, and introducing a stabilisation programme. In the short run the economic package achieved some success as inflation fell and exports showed an initial jump, while imports of machinery and raw materials were able to rise as new grants and trade credits were made available by O.E.E.C. countries. In 1959 agricultural production stagnated and exports failed to keep pace with imports so the trade gap began to widen again. Even industrial production stagnated during 1959 and 1960 and per capita

income barely changed. The economic crisis led to increasing social unrest and the D.P. resorted to repressive measures, until the military intervened in May 1960 and suspended constitutional government.

On the whole the pace and pattern of economic growth in Turkey in the period 1950-60 was disappointing after the early boom years. Significantly during this period neither U.S. nor European capital was attracted to Turkey on a large scale, even though the Menderes government passed legislation in the early 1950s to encourage the inflow of foreign capital. The reasons for this were partly external to Turkey, since European capital was being used mainly to build up their domestic economies and American capital had more profitable opportunities nearer home.¹² However factors within Turkey may well have discouraged foreign capital such as the continued strength of the bureaucracy and the extent of state involvement in the productive sphere of the economy, as well as the ever present political instability. Linked to the absence of foreign capital in Turkey is the relative stability of the pattern and composition of Turkish trade in the decade. Although Turkey's foreign trade was mainly with O.E.C.D. countries, which accounted for about 75 per cent of both exports and imports, there was a small increase in bilateral trade with the U.S.S.R. which occurred at the time when Western foreign credits were most difficult to obtain. In terms of the composition of Turkey's trade agricultural products accounted for over 90 per cent of exports in 1950 and

only slightly less in 1960, whereas investment goods and raw materials accounted for over 80 per cent of imports in 1950 and more than 90 per cent in 1960.

These trade figures indicate clearly the dependence of the Turkish economy on agriculture. Lacking a broad industrial base the Turkish economy was vulnerable to sharp harvest fluctuations. Although there was increasing internal migration to the towns, with the urban population rising from 18.5 per cent to 26.3 per cent¹³ during the decade, Turkey, along with Portugal, were the only countries in Europe to have experienced an absolute increase in the agricultural population in the period. It proved impossible for Turkey to absorb the increase in the active population into non-agricultural occupations, since population growth was so rapid that it amounted to over 10 per cent of the non-agricultural labour force each year. Total population rose from 20.9 million in 1950 to 27.8 million in 1960, and it was largely because of this very rapid rise that Turkey's growth of output per capita was lower than for any other country of Southern Europe. Menderes' inability to pursue a consistent and co-ordinated economic policy and particularly his rejection of economic planning also had an adverse effect on economic performance (Krueger, 1974).¹⁴

Planned Growth, 1960-71

For a minority of the officers within the Committee of National Unity, set up after the military coup, the only way that economic development could be ensured was

through a planned, state directed economy, with a permanent involvement of the bureaucracy, including the military, in Turkish politics (Keyder, 1979).¹⁵ The majority, however, wanted to see power handed back to a democratically elected government, even though this might have been incompatible with a regeneration of Kemalism. In 1961 a new Constitution guaranteeing democratic freedoms emerged from the period of military rule, and in October 1961 the R.P.P. returned to power in a coalition government.

During the period of army rule the economy stagnated and real incomes declined. The uncertainty generated by the coup caused investment in both the private and state sectors to fall, and in 1961 although industrial production rose by 11.7 per cent, agricultural production fell by 4.9 per cent, as Table 2.1 shows. With the return to civilian rule, and as a consequence of the military intervention, there was a change of direction in terms of economic policy. Whereas the 1950s had been characterised by a lack of state economic planning the 1960s was a period when government was committed to co-ordinating economic policy. The 1961 Constitution gave explicit recognition to the rôle and duty of the state in planning for economic development. Article 41 read:

"Economic and social life shall be regulated in a manner consistent with justice and the principle of full employment, with the objective of assuring for everyone a standard of living befitting human dignity.

It is the duty of the State to encourage economic, social and cultural development by democratic processes and for this purpose to enhance national savings, to give priority to those investments which promote public welfare and to draw up development projects."¹⁶

The Constitution also established the State Planning Organisation (S.P.O.) which was expected to design, direct and control the economy through an economic plan. The First Five Year Plan¹⁷ (F.F.Y.P.) drawn up by S.P.O. covered the period 1963-67 and was followed by a Second Five Year Plan¹⁸ (S.F.Y.P.) for 1968-72. In addition S.P.O. was also responsible for drawing up an Annual Programme which reviewed the progress of the economy and gave more detailed information on short run objectives.

Both Plans set a target rate of growth for national output of 7 per cent per annum. Investment was a key variable in the Plans and the aim was that an increasing share of net output would go to it, while consumption would grow more slowly. Emphasis was placed on greater efficiency in the use of existing resources and on improving the productivity of state economic enterprises. Each of the Plans laid great stress on the development of new industries producing import substitution goods. It was also recognised that a rapid rate of growth and industrialisation would place great strains on the balance of payments and if this was not to interfere with growth then export promotion would be a vital instrument in achieving the Plans' targets.

Between 1963 and 1971 G.N.P. grew at an average annual rate of 6.8 per cent, with per capita national product rising more slowly at 4.3 per cent, both just about in line with the Plan targets. As can be seen from Table 2.1 the growth of the Turkish economy was uneven over this period and can be largely accounted for by the fluctuations in agriculture. After a big spurt in activity in 1963 the following two years saw below average performance largely because of the negative rate of growth in agriculture. During the period 1963-71 agriculture grew at only 3.7 per cent per annum on average whereas industry grew at 9.8 per cent on average, and, apart from 1970, was always above 8.0 per cent. By 1970 agriculture had become completely commercialised but there had been no significant increase in concentration. In the 1960s improvements in production methods and irrigation were introduced, fertilisers were increasingly being used and by the end of the decade nearly 50 per cent of the land was cultivated with the aid of tractors (Keyder, 1979),¹⁹ yet still agriculture failed to achieve targets. The lower growth rate in agriculture is reflected in the declining share in national income, down from over 40 per cent in 1963 to 30.6 per cent in 1971, as given in Table 2.3. Industry over the same period increased its share from 16.5 per cent in 1963 to 20.0 per cent in 1971.

By 1971 the major proportion of the labour force was still employed in agriculture although its share of the active population was down from 77 per cent in 1962

TABLE 2.3

The Share of Agriculture and Industry in
National Income, 1960-78, per centages

<u>Year</u>	<u>Agriculture</u>	<u>Industry</u> ¹
1960	44.3	10.8
1963	40.6	16.5
1964	38.9	17.0
1965	36.1	17.7
1966	36.4	17.9
1967	34.7	19.0
1968	33.1	19.4
1969	31.2	20.1
1970	30.0	19.6
1971	30.6	20.0
1972	30.1	20.9
1973	28.5	21.8
1974	26.3	22.3
1975	26.8	21.6
1976	27.3	21.1
1977	26.0	20.8
1978	24.2	20.8

Note: ¹ Mining, Manufacturing, Electricity,
Gas and Water.

Sources: National Income, 1938, 1948-70,
Pub. No. 625, State Institute of
Statistics, Ankara, 1971; S.P.O.
Economic Planning Division; International
Financial Statistics, Sept. 1980;
Statistical Yearbook of Turkey 1979,
State Institute of Statistics, Pub.
No. 890, Ankara, 1979.

to 65 per cent in 1971. Employment within industry grew by approximately 50 per cent between 1962 and 1971 stimulated by import substitution which increased industry's share of the active population from 8.3 per cent to 11 per cent. Corresponding to the growth of industrial and service employment there was continued urbanisation in Turkey in the period 1960-70. Total population grew at an annual rate of nearly 2.5 per cent, the most rapid in Europe, to reach 35.7 million in 1970, but urban population was growing more rapidly than rural, even though the absolute rural population was still rising in this period.

As both Plans had envisaged investment increased more rapidly than G.N.P. during the period 1963-71, while private consumption increased more slowly. In 1963 investment accounted for 15.4 per cent of G.N.P. and private consumption 74.9 per cent, but by 1970 the corresponding figures were 20.1 and 68.0 per cent.²⁰ Gross domestic fixed capital formation was the most rapidly growing component of G.N.P. in this period, and a substantial part of it, in fact about 50 per cent, was carried out by the public sector, as is indicated in Table 2.4. Of private investment less than 1.0 per cent came from private foreign capital, and the bulk of it, over 90 per cent, was internally financed.²¹ Foreign aid and credits had been important in financing investment for a time after 1959, but their significance fell during the F.F.Y.P. and particularly after 1965.

TABLE 2.4

Composition of Gross Domestic Fixed Capital Formation,
percentage distribution, 1960-75

	<u>1960</u>	<u>1963</u>	<u>1966</u>	<u>1969</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
1. Residential Buildings									
Private Sector	20.6	16.1	18.1	21.2	18.9	} 18.8	18.6	18.6	12.3
Public Sector	0.3	2.1	1.9	0.7	0.6				
2. Other Buildings									
Private	6.5	8.0	7.1	7.2	4.3	} 16.8	11.4	19.1	24.4
Public	11.4	12.9	11.5	13.0	12.9				
3. Other Construction									
Private	0.6	1.1	0.6	0.5	0.4	} 23.7	22.9	20.5	18.3
Public	24.8	23.4	27.9	26.3	22.7				
4. Machinery and Equipment									
Private	22.3	24.4	20.4	15.6	26.0	} 40.7	47.0	41.8	45.0
Public	13.6	11.9	12.5	15.4	14.4				
5. Total Private	50.0	49.7	46.1	44.2	49.5				
6. Total Public	50.0	50.3	53.9	55.3	50.5				

Sources: National Income, 1938, 1948-70, op. cit.;

National Income and Expenditure, 1962-73,
Pub. No. 712, S.I.S., Ankara, 1974;
Statistical Yearbook of Turkey, 1979,
op. cit.

The details of the composition of gross domestic fixed capital formation are given in Table 2.4 and show a rising share for the public sector until 1971, the year of the second military intervention. Public investment was mainly in construction (roads, railways, ports, etc.) but a large part was in machinery and equipment within the state economic enterprises. In spite of the rapid growth of investment in Turkey during the first two Plan periods the proportion of investment going into machinery and equipment was declining until 1970, and as Krueger (1974)²² points out the figure was much lower than for many other countries at a similar stage in development: Greece 40 per cent; Chile 45 per cent; Spain 49 per cent; Israel 41 per cent; Taiwan 53.2 per cent and Argentina 45 per cent. While investment in machinery and equipment was relatively low in Turkey, investment in buildings was high, partly because of the rapid rate of population growth but also a result of tax exemptions on building.

Foreign trade was extremely important for Turkey during the period 1963-71 because of the emphasis in the two Plans on developing the industrial sector. By 1971

95 per cent of imports were capital goods, intermediate inputs or industrial raw materials which were all essential for import substituting industrialisation.²³ Nevertheless, as Table 2.2 shows, after 1963 imports stabilised at between 6 and 7 per cent of G.N.P. and this was achieved with a considerable tightening up of the controls on non-essential imports. Agricultural products continued to account for between 85 and 90 per cent of exports after 1963, with cotton, tobacco, nuts and dried fruit being the main export earners. The F.F.Y.P. had assumed that there would be an expansion in exports of fresh fruit, live animals, fish and forestry products, but they fell short of expectations, however, because the traditional exports did better than expected, total exports exceeded the Plan target. There was no reduction in the degree of concentration of exports (on a handful of agricultural commodities) in this period so the country remained open to the danger of fluctuations in export earnings.

One important development in this period was the Association Agreement with the E.E.C. which was signed in December 1964, whereby Turkey would eventually become a member of the Community after having gone through preparatory, transitional and final stages. As a result of the Agreement an increasing share of Turkey's exports went to the Common Market, rising from 33.5 per cent in 1960 to 40.7 per cent in 1970, while the importance of the U.S.A. and Canada as export

markets declined. E.F.T.A.'s share of Turkey's exports remained constant between 1960 and 1970 at just over 17 per cent, but by 1970 the E.E.C. was a more important customer than E.F.T.A., the U.S.A. and Canada combined. There was also a big expansion of trade with Middle East countries during the 1960s so that by the end of the decade they were taking 11.6 per cent of Turkey's exports and supplying 6.7 per cent of her imports. The geographical distribution of Turkey's imports did not change very much between 1960 and 1970 with the E.E.C. continuing to be the main trading partner.

The rising deficit on external trade in the period 1961-71 did not cause Turkey to abandon its growth target, as had happened in the 1950s, mainly because of the high level of foreign aid and the rising level of remittances from Turkish workers in Western Europe. Turkey continued to be highly dependent on foreign aid and between 1963 and 1971 the Consortium for Aid to Turkey, formed within the O.E.C.D., gave about \$2,350 millions.²⁴ Labour migration from Turkey was increasing after 1960, and between 1965 and 1971 the number of Turkish workers in Western Europe rose from 180,000 to 526,000. The details of the flow of remittances to Turkey, which were considerable, are given in Table 2.5.

Not only did the Turkish workers abroad provide valuable foreign exchange but the level of remittances was sufficient to cover an increasing proportion of the trade deficit, until by 1971 they were almost equal to

TABLE 2.5

Turkish Worker Remittances,
1964-79, \$ million

<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
9	70	115.3	93	107	140.6
<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
273	471	740.1	1183	1426	1310
<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>		
983	1086	974	1694		

Sources: Turkey: An Economic Survey, 1977, op. cit., Tables 104 and 130; Turkiye Is Bankasi, Review of Economic Conditions, 1979, Ankara, 1979; O.E.C.D., Economic Surveys: Turkey, 1980.

the trade deficit.²⁵

While growth through import substitution was sustained many underlying social and political problems were kept under control. Inflation, which had been such a problem in the second half of the 1950s, was historically very low during the 1960s, although it did accelerate rapidly in 1971. The 1960s was a period of rapid industrialisation (e.g. the consumption of steel per capita increased by 260 per cent between

1961 and 1971 and energy consumption per capita by 221 per cent), large scale urbanisation and growing unionisation (membership up from 296,000 in 1963 to 1,200,000 in 1971, which represented 30 per cent of wage earners), which placed great strains on an already fragile political system. In 1970 industrial production stagnated, agriculture had another bad year on top of several bad years, unemployment was over 10 per cent and the external sector went into even greater deficit. The economic crisis of 1970, which was mild compared with what occurred later in the decade, caused the government to devalue the lira from 9 T.L. to 14.85 T.L. to the dollar, and to introduce a set of stabilisation measures to deal with the external imbalance. The summer of 1970 also saw a massive demonstration by workers which led the Demirel government, in power since 1965, to introduce Martial Law, but this measure did not contain the social, political and economic discontent, and the military decided to intervene in March 1971.

Mounting Crisis, 1971-80

1970 had been a crisis year for the Turkish economy but 1971 showed a considerable improvement. Agricultural production rose by 13.2 per cent, which was the biggest annual increase since 1951, and industrial production also improved on the poor performance of 1970, so that G.D.P. grew by 9.1 per cent. In 1972 G.D.P. grew by 6.6 per cent, in spite of a decline in agricultural production, largely due

to the continued expansion of industry. At the end of the S.F.Y.P. the main macroeconomic targets had been broadly achieved, although within that total performance industry and construction, and to a smaller degree agriculture had below target growth rates, while services, housing and transport above target.

1971 and 1972 were superficially years of recovery for the Turkish economy but the underlying economic position was not so healthy. Inflation which had averaged just over 5 per cent for the 1960s jumped to 15.9 per cent in 1971 and 18.0 per cent in 1972. The main reasons for the increase in inflation were the devaluation of 1970 and the growth in the money supply which the military authorities sanctioned when they took power. During this period of rising inflation the army rulers made strikes illegal, real wages fell, and in 1972 there were 1,575,000 people unemployed, representing 11 per cent of the working population. The increased rate of activity in 1971 and 1972 meant a rise in imports, but because exports increased only modestly there was a widening trade deficit (see Table 2.2). Fortunately for Turkey remittances from expatriate workers were increasing and these became extremely valuable as the Turkish lira was devalued. In 1972 Central Bank reserves of foreign exchange reached record levels but the continued failure of exports to expand in line with imports led the Turkish authorities to devalue the lira by a further 10 per

cent in February 1972.

In 1973 the Third Five Year Plan (T.F.Y.P.) began which was expected to restructure the economy, with 31 per cent of total investment going into manufacturing industry and a further 13 per cent into the industrial mining and power sectors. At the end of the S.F.Y.P. 65 per cent of Turkey's manpower was employed in agriculture which accounted for 28.2 per cent of G.D.P. in comparison with 11 per cent in industry providing 22.6 per cent of G.D.P. By the end of the T.F.Y.P. it was anticipated that manpower in industry would rise to 14 per cent and account for 27 per cent of G.D.P. while the agricultural share of manpower would fall to 58 per cent and provide 23 per cent of G.D.P.²⁶ G.N.P. was expected to rise at an annual rate of 7.9 per cent. The Plan also placed greater emphasis on foreign investment by reverting to the principles of the 1954 Act for the Encouragement of Foreign Capital Investments. It was hoped that foreign capital would play a vital role in development during the T.F.Y.P. by introducing locally unavailable technology, particularly for the export sector. Another important landmark was passed on 1st January 1973 when Turkey entered into the second and transitional stage of association with the E.E.C., which increased the range and reduced the tariff on goods able to enter the Common Market. The other major event of 1973 was the restoration of constitutional government after the elections in October.

During the first four years of the T.F.Y.P. the economy expanded broadly in line with the target for G.D.P., although there was a considerable decline in earnings from the rest of the world after 1974. Then in 1977 expansion came to an end as both agricultural and industrial production declined. Unemployment was 15 per cent in 1976 and rose even higher during 1977. Inflation too was much higher on average during the T.F.Y.P. than in the two previous ones and it accelerated rapidly in 1977 to reach 24.1 per cent. The balance of payments was in deficit and deteriorating during the T.F.Y.P. With the quadrupling of world oil prices in late 1973 and early 1974 nearly 62 per cent of Turkey's imports in 1974 were for raw materials. The deficit on the balance of trade reached 7.5 per cent of G.N.P. in 1974 and 9.2 per cent the following year. One of the consequences of the invasion of Cyprus in 1974 was to create uncertainty which reduced the flow of earnings from tourism in 1975 and 1976 well below target levels. The recession in the Western World, including the German construction and motor industry, also reduced the flow of workers' remittances in 1975 and 1976; so there was strong pressure building up on the external account for several years. In 1977, which was a particularly severe year for the Turkish balance of payments, imports rose by 26 per cent and exports by a mere 2 per cent, but in terms of dollar values imports rose by about 20 per cent and exports fell by a similar proportion.²⁷ Worker remittances showed only a 6 per cent recovery in 1977

over 1976, and the deficit on trade represented 8.5 per cent of G.N.P. Most of the increased imports in 1977 were for raw materials, which increased by over 30 per cent while the decline in exports was largely due to the reduced earnings from cotton and tobacco.

In the short run Turkey was able to borrow from abroad to cover the mounting deficits, but within a very short time the rising debt and debt-servicing began to create further problems on the external account. In 1977 amortisation of external debt amounted to \$214 million with a further \$360 million being paid in interest on earlier debt.²⁸ The total foreign debt of Turkey which stood at \$2.2 billion in 1970 had reached \$3.5 billion by 1975, \$12.5 billion by 1977 and \$15 billion by 1979.²⁹ In September 1977 the Turkish government introduced certain policy measures to restore internal and external balance: tighter monetary control, higher prices for state enterprise goods, devaluation of the Turkish lira and a rise in import deposit guarantees.

After 1977 the Turkish economy was in a very sick condition. The rate of growth of the economy stagnated during 1978 and 1979. Industry in particular was suffering from import restrictions and the deflationary measures of September 1977. The 1977 measures also caused a rapid increase in import prices which was soon reflected in domestic prices. In 1979 the wholesale price index went up by 63.9 per cent and by the end of 1979 it had reached 80 per cent on a year to year basis.³¹

Unemployment too continued to rise and according to the State Institute of Statistics it reached 13.9 per cent of the labour force in 1978, although unofficial estimates put it nearer 20 per cent. One of the favourable consequences of the recession, and a further devaluation of the lira in March 1978, was the decline in the deficit on the current account in 1978, down to 4.5 per cent of G.N.P.

Overview of Economic Growth 1950-80

The enormous economic growth that took place in Turkey between 1950 and the mid 1970s, with G.N.P. rising some 250 per cent and per capita income about 100 per cent, was based to a large extent on the expansion of the industrial sector. The balance of payments was permanently in deficit on the current account throughout the post-war period but it was not until after the 1973 oil crisis that it imposed constraints on domestic growth. Prior to 1973 it had always been possible for Turkey to finance the trade deficit through short term capital movements, foreign aid and worker remittances, because import controls and export subsidies kept the deficit within bounds. Unfortunately Turkey was unable to break its dependence on a small range of commodities for export, and even in 1976 three products (cotton, hazlenuts and tobacco) accounted for over 45 per cent of export earnings.³² Although Turkey's industrial exports increased from 18.1 per cent of the total in 1950 to

35.9 per cent in 1975, a close look at them reveals that 16 per cent of them in value terms in 1976 were agriculture based, being processed primary products, and a further 44 per cent of them were textiles.

During the 1960s rapid growth based on import substitution was possible because there was a ready protected market in Turkey which was large and growing and the level of imports was rising less rapidly than the rate of industrial expansion. A major difficulty emerged in the 1970s due to the high propensity to import. Over 90 per cent of Turkey's imports in the mid 1970s were investment goods and raw materials, and, with the terms of trade deteriorating, import spending was increasing as rapidly as national product which caused the trade deficit to grow alarmingly. In the 1970s, too, domestic demand was not sufficient to maintain the previous rate of industrialisation, so that external markets needed to be found for domestic products. The problem was that after 1974 there was a world recession and many of Turkey's industrial products were not internationally competitive because of the protectionist barrier erected in the 1960s. Attempts to solve the balance of payments disequilibrium through massive devaluations failed to provide the answer and fuelled domestic inflation.

Between 1974 and 1977 Turkey's reserves of gold and foreign currency declined by over \$950 million and at the beginning of 1978 were at an all time low. The foreign exchange gap had to be financed through I.M.F.

Special Drawing Rights, private foreign suppliers' credits and as a stop-gap measure the Convertible Lira Deposit system was reinstated in 1975. These measures generated foreign exchange in the short run but as the balance of payments deteriorated year by year it became increasingly difficult to pay the interest let alone the principal of the debts.

Financial help for Turkey was announced in principle at the Guadaloupe summit meeting in January 1979 to prevent the country falling into complete economic and political collapse. The external position of Turkey was so serious that even after the foreign debt was rescheduled it would still require 40 per cent of export earnings each year just to service the debt.³³ The rescue operation, which was to be undertaken by the I.M.F., Western commercial banks and O.E.C.D. governments was conditional on Turkey accepting an austerity package which included further devaluation, a wage freeze, higher consumer prices, lower economic growth and a shift of resources from the public to the private sector. But in 1979 the Turkish economy was in its deepest ever crisis with unemployment standing at 20 per cent, industry working at only 50 per cent capacity, bankruptcies rife, particularly amongst small firms, and inflation accelerating. Bulent Ecevit, the Prime Minister, would not agree to the austerity package immediately, but eventually was forced to reach a compromise. Devaluation took place in June and large price increases were announced.

In the mid-term elections of October 1979 there was a landslide victory for Demirel's Justice Party and Ecevit promptly resigned. The I.M.F. visited the country in December, and in early 1980 Demirel announced a further devaluation and enormous price increases for basic necessities: coal 100 per cent, electricity 163 per cent and transport between 135-300 per cent.³⁴ The agreement on loans and aid for Turkey, reached between Demirel's coalition government and the I.M.F. and the O.E.C.D. in 1980, came too late to prevent the crisis intensifying, which led to the military coup in September 1980.

Turkish Development: A Wider Concept

It has been shown how the three military coups since 1950 were preceded by economic problems, but it is impossible to understand the mounting crisis that occurred in Turkey in the late 1970s, which brought the country close to collapse, in terms of the economic performance of the country alone. Just as on the two previous occasions when the military assumed power the country was in the midst of a political crisis which stemmed from left wing demands for economic, social and political change. The first part of this chapter looked at the growth of the Turkish economy, but it is important to broaden the analysis and consider what happened to development and to see how this related to the periodic crises of the country.

First of all it is necessary to define the concept of development. It is a term which is used widely in the Social Sciences and it means different things to different people. Development is a normative concept and its definition ultimately depends on the values and goals of the individuals assessing development. Subjectivity is not confined to the study of development but is inevitable within all branches of the Social Sciences.³⁵ For the purposes of this study development will be taken to be a process of improvement that involves multidimensional change (Baster, 1972).³⁶ Economic growth can be an important dimension of development, but it would be misleading to use it as the only proxy for development, since it is not a sufficient condition for development (Streeten, 1972).^{37,38} Furthermore economic growth is calculated from changes in G.N.P. or G.D.P. estimates and there are a number of sources of bias in this procedure.^{39,40}

Even though development is a normative concept there is a fair degree of agreement in the literature on development objectives, in which the dimensions are economic, social, political and cultural (Colman and Nixon).⁴¹ One consequence of this is that there is no adequate single index of development that can be derived, partly because many aspects of development cannot be directly measured and for each aspect there are several possible indirect indicators that could be employed, but also because there is no way of knowing the correct

weights to use nor of reducing the indicators to a common unit of measurement.⁴² For the purposes of this study it will be assumed that development can be measured by five themes or dimensions:

1. Rate of economic growth.
2. Distribution and minimum income levels.
3. Productive capacity and technological change.
4. Social and institutional change and political participation.
5. Dependency and international relations.

As 1 and 3 have been dealt with at length earlier in the chapter and 5 has been touched on and will be considered in greater detail in chapter 6, further comment will be limited to 2 and 4.

Distribution and Minimum Income Levels

An important objective of development is to raise the level of living and one of the indicators of this can be changes in per capita consumption. Between 1963 and 1972 consumption per capita grew at an average rate of 3.5 per cent per annum which was somewhat slower than the growth of G.N.P. per capita at 4.3 per cent. In years when G.N.P. grew less than planned it was generally consumption that bore the brunt of the burden. Thus in 1964 when G.N.P. grew at a mere 4.1 per cent, consumption per capita declined by 0.4 per cent, then again in 1970, a year of economic crisis, consumption once again declined, this time by 0.6 per cent. The

lower rate of growth of consumption per capita is reflected in the changing structure of resource use with a declining proportion of G.N.P. going to consumption (and a larger share going to investment). Between 1950 and 1976 the share of G.N.P. going to consumption declined from 90.8 per cent to 81.3 per cent, with private consumption accounting for all of the fall.⁴³ Yurukoglu (1978)⁴⁴ presents estimates of the increasing rate of exploitation* that occurred in manufacturing industry in Turkey between 1970 and 1973, and details the rising gap between minimum wages and the required level of wages up to 1977. Real wages were more or less maintained between 1973 and 1977, but during 1978 and 1979 fell substantially and even more rapidly after the introduction of a wage freeze and higher prices in late 1979 and 1980.⁴⁵ Unemployment which stood at 11 per cent in 1972 had reached 20 per cent by 1979 and was a direct cause of poverty for millions of people. Some groups have been made much worse off by the spread of mechanisation. Kiray and Hinderink (1968)⁴⁶ give details of share croppers who were dispossessed by farm machinery and reduced to seasonal employment as farm labourers and as a consequence suffered material decline. There were also

*The calculation of the rate of exploitation is problematic since national income categories do not correspond with Marxist categories.

an increasing number of urban under-employed, as well as the unemployed, who were forced to live in appalling conditions in the shanty towns and squatter areas that sprang up round the main cities.⁴⁷

The first available information on income distribution is for 1963 when S.P.O. undertook a study using data from the demographic survey of that year. Further surveys were carried out in 1968 and 1973 with the latter study being the most reliable but not comparable with the earlier surveys because of different calculation methods. The overall picture revealed by the 1973 study was of a high degree of inequality. At the lower end of the distribution 12.2 per cent of households received only 1.5 per cent of national income, while at the higher end 2.5 per cent of households received 21.0 per cent of national income.⁴⁸ When the findings are compared internationally, Turkey is revealed to have a more inequitable distribution than most countries.⁴⁹ The World Bank (1980)⁵⁰ revealed that the percentage share of household income received by the lowest 20 per cent of households was 3.4 for Turkey which was lower than for all countries apart from Honduras, Peru, Malaysia, Mexico, Costa Rica, Brazil and Venezuela. The highest 10 per cent of households took 40.7 per cent of household income, a degree of inequality at the upper end only exceeded by Honduras, Peru and Brazil.

Turkey has made considerable economic progress since

1950 yet at the same time some inequalities have remained which have had the effect of generating social and political unrest, particularly in times of economic crisis when disparities between different groups in society have been increased.

Social and Institutional Change and Political Participation

Some of the indicators that could be used to measure social change and participation, e.g. participation rates in schools, the literacy rate, etc., show a healthy modernisation trend. In two areas of participation, however, progress has been only partial and uneven, namely in labour relations and in politics. Prior to 1950 the Labour Law of 1936 operated which permitted individual labour contracts, but prohibited collective agreements, strikes and lockouts. From 1950 it became legal to form trade unions and employer associations but collective bargaining and strikes were still illegal. The Constitution of 1961 brought a new attitude towards collective bargaining and in 1963 Law 275 gave it legal recognition and also permitted strikes and lockouts. Since 1963 Law 275 has regulated industrial relations but in periods of Martial Law the right to strike was suspended and even under civilian rule strikes could be halted by government decree that it was necessary and in the national interest, as happened frequently during 1979 and 1980.

In 1950 multi-party democracy was established in

Turkey for the first time, and it gave the mass of the population an active voice in the political system. In 1961 the Labour Party of Turkey was founded and its programme stressed the desire to follow democratic ways in gaining political power. The Turkish Communist Party was permanently banned throughout the post-Second World War period, but in 1971 the Turkish Constitutional Court also outlawed the L.P.T. and the entire leadership of the Party were arrested. In the two years that followed, while the military were in power, thousands of left wing activists were imprisoned because of their political beliefs and many were tortured.⁵¹ The two Articles of the Turkish Penal Code most frequently used to punish political activists were Articles 141 and 142 which had been copied from the fascist penal code of Mussolini's Italy.⁵² (See Appendix 1).

Article 141 was used to imprison members of left wing organisations, and Article 142 was used to imprison journalists, publishers, writers, translators, academics and anyone else involved in the dissemination of material that the authorities deemed to be left wing. The Articles have received a great deal of criticism both within and outside Turkey and the application of the Articles led Amnesty International to declare that they were generally incompatible with Articles 18, 19 and 20 of the United Nations Declaration of Human Rights and Articles 9, 10 and 11 of the European Convention on Human Rights, which guarantees freedom of thought,

conscience and religion; freedom of opinion and expression and freedom of peaceful assembly and association.⁵³

Between 1971 and 1973 amendments to more than 40 different Articles from the Constitution were drafted which greatly limited the freedoms gained in 1961. Nevertheless the divisions in Turkish society along class, religious and ethnic lines were so great in the 1970s that successive governments were unable to put an end to mounting violence. Harassment and imprisonment of socialists and trade unionists failed to stem the growing mass protests,^{54,55} particularly after 1975 and eventually basic freedoms were eroded even further when Martial Law was declared in December 1978.

Conclusion

Economic planning was introduced in 1963 in order to improve on the poor economic performance of the 1950s. Planning was regarded as a tool that would ensure 'social justice' for all, which was to be a major objective in the series of five year plans. In other words great emphasis was attached not only to the achievement of economic growth but also to improvements in a more widely conceived economic development. It was stressed that there was a need for a more equitable distribution of income and wider participation in the fruits of economic progress through extended educational opportunities, better housing, health and welfare facilities,

improvements in the quality of urban and rural life and more favourable employment prospects.

In practice although G.N.P. grew impressively between 1963 and 1976 and at a higher rate than for many L.D.C.s, there were many deep rooted structural and institutional problems that had not been overcome by 1976. These problems were: (1) high and rising levels of unemployment, reaching 20 per cent in the late 1970s, with a marginal unemployment rate, i.e. of new entrants, far in excess of this,⁵⁶ (2) very high rates of population growth, still averaging 2.5 per cent per annum, (3) a very inequitable and unjust income distribution, (4) low per capita incomes, (5) insufficient domestic savings, (6) dependency on imports for technology, capital goods and raw materials, (7) dominance of exports by agricultural and agriculture based products, (8) an inadequate educational system for an industrialising country, particularly in secondary and higher education, (9) low levels of provision in health and welfare services, (10) an archaic public administration system⁵⁷ and restricted participation in and access to political institutions and processes, (11) rigid sexual and racial divisions.

These problems were essentially the same as had been recognised at the start of the first five year plan. Economic progress failed to resolve the institutional and structural problems and did little to eliminate the social and economic imbalances in the country. In short

little progress had been made by the late 1970s
towards achieving social justice.

CHAPTER 3

THE GROWTH OF MILITARY EXPENDITURE AND THE ALLOCATION OF RESOURCES

Sources of Data

Before looking in detail at the growth of Turkish military expenditure it is important to consider the sources of data and the reliability of the figures. Military expenditure by its very nature has a strategic significance which may require that full information on its level and content is not made public. The need to maintain national security leads many governments to publish only partial information on military expenditure, or genuine military expenditure may be included within different categories of government expenditure.

There are five main sources of data on military expenditure as follows:

1. The International Institute for Strategic Studies, London (I.I.S.S.).
2. The International Peace Research Institute of Stockholm (S.I.P.R.I.).
3. The U.S. Arms Control and Disarmament Agency (A.C.D.A.).
4. The U.N. in the Statistical Yearbook and the I.M.F. Government Finance Statistics Yearbook.
5. World Military and Social Expenditures.

Not surprisingly it is found that these sources

estimate military expenditure according to different definitions and therefore discrepancies are found between them. S.I.P.R.I. (1973)¹ listed 11 military expenditure categories as follows:

1. Pay and allowances of military personnel.
2. Pay of civilian personnel.
3. Operations and maintenance.
4. Procurement.
5. Research and development.
6. Construction.
7. Pensions to retired military personnel.
8. Military aid.
9. Civil defence.
10. Paramilitary forces.
11. Military aspects of activities that are acknowledged as having a joint civil-military function; for example space or atomic energy.

Yet S.I.P.R.I. estimates of military expenditure for N.A.T.O. countries are based on estimates made by N.A.T.O. to correspond to a common definition, which does not include all eleven categories. The N.A.T.O. estimates "include military research and development; include military aid in the budget of the donor country and exclude it from the budget of the recipient country; include costs of retirement pensions, costs of para-military forces and police when judged to be trained and equipped for military operations; and exclude civil defence, war pensions and payments on war debts."²

The U.S. A.C.D.A. on the other hand has a different definition which includes "current and capital expenditure to meet the needs of the armed forces; expenditures of national defence agencies for military programmes; expenditures for the military components of such mixed activities as atomic energy; space, and research and development; military assistance to foreign countries; military stockpiling; retirement pensions of career personnel; and expenditure on certain para-military forces ... excluded are veterans benefits, civil defence, civilian space, strategic industrial stockpiling and public debt service."³

These differences in definition are not the main cause of uncertainty in estimates of military expenditure. For non-communist countries all the major estimates of military expenditure are based on open sources of information, which simply means that they are derived from published national budgets. In some countries defence estimates appear in a Defence White Paper with other supporting material. For other countries there may be just one figure included in the budget statement although there is always the possibility that there may be further military expenditure in supplementary or emergency budgets, or that actual expenditure may differ from the amount allocated in the budget.⁴

Another problem is that different countries categorise military expenditure in different ways so that for some countries certain forms of military expenditure may be included in the budgets of other ministries; for

example the cost of para-military forces may be included in the budget for the Ministry of the Interior; defence-related research and development in that for Industry and Technology; military pensions in the budget for Social Security; and some military infrastructure costs in the Ministry of Transport and Communications. There are also problems relating to the cost of military manpower, since conscripts will almost certainly be paid less than their economic opportunity cost - the difference being a hidden cost of defence. Fortunately the N.A.T.O. definition and estimate includes military expenditure carried out by other ministries and agencies, but it does not make allowance for cheap military manpower.

For international comparisons it is preferable that military expenditure figures are corrected for inflation and converted into a common currency, yet both of these adjustments can give rise to bias. Nevertheless S.I.P.R.I. found that for N.A.T.O. countries the different sources gave fairly close estimates for military expenditure. It was assumed that if the different sources gave widely differing estimates for a particular country then that indicated a wide margin of error and gave a guide to the reliability of the figures. From the various estimates of military expenditure for each country a 'standard error' was calculated, which was used as a measure of the extent of the divergence of the estimates. In the case of Turkey the standard error was 7.6 for those estimates using the N.A.T.O. definition of military expenditure. Thus if the average of the estimates was

100 the correct figure probably lies somewhere in the range 92.4 - 107.6. It is reasonable to assume that the estimates made by I.I.S.S., S.I.P.R.I. and A.C.D.A. are fairly reliable although it is questionable whether they are valid.⁶

For many developing countries, and Turkey is no exception, arms transfers from abroad are particularly difficult to estimate. The level of military imports is often a sensitive issue and its true level may be deliberately disguised by governments who simply categorise arms imports as commercial transactions. There are also differences in S.I.P.R.I. and A.C.D.A. data on arms imports due to different definitions employed. S.I.P.R.I. includes only "major weapons", like aircraft, ships, armoured vehicles and missiles, whereas A.C.D.A. also includes small arms, ammunition support equipment and spare parts.^{7,8} It is also extremely difficult trying to obtain information on arms transfers from the supplier side since, for example, in the U.S.A. it is dispersed among the various sections of the State and Defence departments.⁹

The implication is clear. Great care has to be taken when using military expenditure figures for estimation purposes. In the case of N.A.T.O. countries where the estimates (according to S.I.P.R.I. standard error calculations) seem fairly reliable then statistical estimation and regression analysis can be worthwhile but for countries outside the O.E.C.D. the uncertainty

about the figures is too great to make any such exercise very meaningful. In spite of these difficulties and bearing in mind the uncertain validity of the data the growth of military expenditure in Turkey will now be considered.

Military Expenditure

After the founding of the Republic in 1923 external threats to the independence of Turkey receded and the major objective became economic and social modernisation. In 1926 approximately 40 per cent of the general budget was allocated to defence but this had declined to about 28 per cent in the early 1930s,¹⁰ as more government resources were put into state economic activities. Nevertheless defence was not ignored and in 1924 conscription for all soldiers, apart from officers and certain non-commissioned officers, was introduced, which required young males to do a period of 18-24 months military service.¹¹ As a result of the conscription it has been estimated that by 1932 the total armed forces stood at 110,000 which was about 30,000 more than in 1922. As the 1930s decade drew to a close military expenditure began to increase and a much larger military force was mobilised - 210,000 by 1938 and probably in the region of 800,000 in 1940.¹² By 1939 46 per cent of the general budget was being turned over to defence and this rose to 56 per cent in 1940 and stayed at that level for the duration of the War. The end of the War saw military

expenditure fall to about 33 per cent of the general budget in 1946.

Since 1948 when the first U.S. military and economic aid began to flow into Turkey there have been two main sources of military expenditure. One part has come from domestic resources which have been allocated to military activity through the budgetary process and the other part represents the flow of arms and military equipment given as aid by the U.S. government to the Turkish government. Between 1948 and 1974 (that is before the U.S. arms embargo) Western military aid to Turkey was approximately half the level of domestic resources allocated to defence, although in some years, for example 1957 and 1958, the military aid was greater.

There are two possible estimates of the domestic flow of resources into defence, one based on the budget of the ministry of defence and the other the N.A.T.O. estimate, or a corrected version of it. For reasons previously outlined the N.A.T.O. estimate can be regarded as the most accurate and reliable and this is given in column 1 of Table 3.1. The N.A.T.O. estimate does not, however, include the flow of military aid from the Western Powers, mainly in the form of grants and loans which are used to buy arms. Most of the military aid was received through the U.S. Military Assistance Program (M.A.P.) although Western Germany also provided assistance on a smaller scale. Information on the flow of U.S. military assistance to Turkey has to come from the Statistics and

TABLE 3.1

Turkish Military Expenditure 1952-76in U.S. \$ million, at 1960 pricesand exchange rate

<u>Year</u>	<u>Domestic Military Expenditure (D.M.E.)</u>	<u>Military Assistance</u>	<u>Total Military Expenditure (T.M.E.)</u>	<u>D.M.E. as % of G.N.P.</u>	<u>T.M.E. as % of G.N.P.</u>
1952	191	138.6	321.6	6.0	10.1
1953	211	202.1	413.1	5.9	11.5
1954	217	202.1	419.1	6.5	12.6
1955	228	202.1	430.1	6.3	11.9
1956	215	202.1	417.1	5.8	11.3
1957	211	232.4	443.4	4.7	9.9
1958	218	243.2	461.2	4.6	9.7
1959	251	168.6	419.6	5.4	9.0
1960	266	104.2	370.2	5.7	7.9
1961	289	126.2	415.2	6.0	8.6
1965	343	131.2	474.2	5.5	7.6
1968	363	77.7	440.7	5.1	6.2
1973	487	86.1	573.1	4.7	5.6
1975	883	65.8	948.8	6.1	6.6
1976	1082	63.8	1145.8	6.9	7.3

Source: 1952-68 S.I.P.R.I. Yearbook, 1970, pp.286-7. Other years derived from S.I.P.R.I., 1980 and Military Assistance and Sales Facts, Department of Defence, various years.

Reports Division of the Agency for International Development (A.I.D.) and Military Assistance and Sales Facts, Department of Defence, and in Western Germany from the Defence Estimates, since there is no record of these transactions in the U.N. National Accounts or the I.M.F. Balance of Payments Yearbook. The rule adopted by the U.N. and its agencies, and indeed by the U.S., West German and Turkish governments, is that the military assistance is government consumption in the donor country. As Shorter (1967)¹³ points out the I.M.F. Balance of Payments Manual¹⁴ proposes a theoretically consistent treatment of "military end-items", namely that they should be treated "in the same way as other goods and services", however, "for pragmatic reasons" they are treated as "final government expenditure in the granting country." By including military end-items in the total resources of the recipient country, military aid would be treated in the same way as economic aid. This procedure does not deny that U.S. military assistance is beneficial to the U.S. but it does help to show the total level of resources used in defence in Turkey.

The estimates for military assistance given in Table 3.1 do not include U.S. or German economic assistance to Turkey. It could be argued¹⁵ that economic aid may release domestic resources which can then be used for military purposes, but then this would be included in the domestic military expenditure estimate, so to include foreign economic assistance as part of total military

expenditure would amount to double counting.

Table 3.1 gives details of Turkish military expenditure between 1952-76, and it is quite clear that military assistance has been substantial in relation to total military expenditure. For the period covered in Table 3.1 the average domestic burden of military expenditure was just over 5 per cent, while the average total burden was over 8 per cent. U.S. military assistance reached a peak in 1958 and then declined steadily both in real terms and as a percentage of Turkish military spending during the 1960s and 1970s. It is certain, however, that these estimates of military expenditure do not state the full cost of defence. Shorter (1967)¹⁶ points out that many military resources have been procured at below their market value. Thus "troops have been transported on the state railways at a loss to the carrier. Also, at one time in the mid-1950s cereals were 'purchased' from the state trading organisation by the army but not paid for." Even more important, allowance needs to be made for the fact that about two thirds of the total armed forces in Turkey have been conscripts, and therefore paid a wage less than what they might have earned in the productive sector.

The Allocation of Domestic Resources

The preceding section has shown that the resources allocated to defence in Turkey have been considerable, both in absolute terms and also as a proportion of G.N.P.

To show more clearly the significance of military expenditure it has been put alongside three other components of G.N.P., namely investment, the total budget and education, which is presented in Table 3.2. The data in Table 3.2 are expressed in current prices, which have the disadvantage of being influenced by the rate of inflation (wholesale prices rose by over 700 per cent in the period 1952-76). On the other hand adjusting the current price figures by the G.N.P. deflator makes no allowance for differential rates of inflation between resources, whereas the current price figures fully reflect the different rates of price increases that have occurred in the inputs used in each sector.

In order to draw attention to the absorption of resources by each sector the estimates in Table 3.2 have been expressed as ratios of G.N.P. and are presented along with indices of real G.N.P., real military expenditure and real military expenditure per capita in Table 3.3. Over the period 1952-74 military expenditure as a proportion of G.N.P. (the military burden) declined, but then the Turkish invasion of Cyprus in 1974 caused the burden to rise sharply in 1975 and 1976. The real level of military expenditure stood at 566.7 in 1976 (1952 = 100), but the rate of growth varied over the period. Between 1952 and 1960 real military expenditure grew at an average annual rate of 6.1 per cent, from 1961 to 1970 at 3.8 per cent,

TABLE 3.2

Expenditure on Defence, Investment,Total Budget and Education,1952-76 at current prices, T.L. million.

<u>Year</u>	<u>Defence</u>	<u>Investment</u>	<u>Total</u> <u>Budget</u>	<u>Education</u>
	(1)	(2)	(3)	(4)
1952	725	1,800	2,325	222
1953	827	2,040	2,394	264
1954	934	2,470	2,654	318
1955	1,077	3,040	3,421	372
1956	1,159	3,370	3,525	401
1957	1,266	3,910	4,001	479
1958	1,470	4,900	4,752	505
1959	2,153	6,910	6,217	769
1960	2,410	7,520	8,616	1,241
1961	2,718	7,840	9,039	1,331
1962	2,980	8,760	11,489	1,713
1963	3,157	9,660	12,763	1,925
1964	3,443	10,440	14,218	2,045
1965	3,821	11,140	16,475	2,464
1966	3,996	14,440	18,404	2,734
1967	4,596	16,550	21,083	3,144
1968	5,159	19,450	24,893	3,040
1969	5,395	21,710	31,653	3,914
1970	6,237	27,000	46,270	6,210
1971	8,487	31,700	50,921	6,739
1972	9,961	40,400	51,968	7,069
1973	12,192	52,800	62,709	8,922
1974	15,831	73,000	83,860	12,775
1975	32,830	100,700	109,252	14,511
1976	44,700	145,000	156,210	21,662

Notes: The defence estimate is according to the N.A.T.O. definition, but for 1975 and 1976 National estimates from the

Budget expenditure allocations were used.
Investment is taken as gross domestic
fixed capital formation.

Sources: Column 1 S.I.P.R.I. Yearbook, 1970 and
1978.

Columns 2, 3, 4 U.N. Statistical Yearbook,
various dates.

and from 1971 to 1976 at 21 per cent, although this
latter period was dominated by the enormous increases
of 1975 and 1976. Because of Turkey's rapid rate of
population growth military expenditure per capita
expanded more slowly standing at 309.1 in 1976 (1952
= 100) and most of this increase also occurred in 1975
and 1976. Indeed military expenditure per capita only
increased by 25 per cent between 1952 and 1970, and
then increased by another 147 per cent in the next six
years.

Comparing the Total Central Budget estimates and
the military expenditure estimates it can be seen that
the latter have been very large in central government
spending, although the ratio declined from over 30 per
cent in the 1950s to less than 20 per cent in the 1970s
until the invasion of Cyprus pushed it up to 30 per
cent again. Table 3.3 also shows that military expenditure
absorbed almost twice as many economic resources as did
education over the whole period 1952-76, but while the

TABLE 3.3

The Allocation of resources to Defence,
Investment, the Total Budget and
Education as a per centage of G.N.P.
(current prices)

<u>Year</u>	<u>Defence</u>	<u>Investment</u>	<u>Budget</u>	<u>Education</u>	<u>Index of Real G.N.P. 1</u>	<u>Index of Real M.F.</u>	<u>Index of Real M.F. per capita</u>
1952	5.4	13.4	17.4	1.7	100	100	100
1953	5.3	13.1	15.3	1.7	111.2	110.5	106.9
1954	5.9	15.5	16.7	2.0	107.9	113.6	106.9
1955	5.6	15.9	17.9	1.9	116.4	119.5	110.3
1956	5.3	15.3	16.0	1.8	120.1	112.6	101.2
1957	4.3	13.3	13.7	1.6	129.5	110.5	96.6
1958	4.2	14.0	13.6	1.4	135.3	114.2	96.6
1959	4.9	15.3	14.2	1.8	140.9	131.5	108.1
1960	5.2	16.1	18.5	2.7	145.6	139.3	111.5
1961	5.5	15.8	18.2	2.7	148.5	151.4	117.2
1962	5.2	15.2	19.9	3.0	157.7	160.3	121.8
1963	4.7	14.5	19.1	2.9	173.0	158.7	117.2
1964	4.8	14.6	19.9	2.9	180.1	169.2	121.8
1965	5.0	14.5	21.5	3.2	185.7	179.7	125.2
1966	4.4	15.8	20.2	3.0	208.0	173.9	119.5
1967	4.5	16.3	20.8	3.1	216.7	174.4	117.2
1968	4.6	17.3	22.1	2.7	231.2	190.2	124.1
1969	4.3	17.4	25.3	3.1	243.7	186.5	119.5
1970	4.2	18.4	31.5	4.2	257.9	199.6	125.2
1971	4.4	16.7	26.4	3.5	284.2	233.6	143.6
1972	4.1	17.1	21.6	2.9	305.2	243.1	147.0
1973	3.9	17.2	20.2	2.9	321.7	255.1	149.3
1974	3.7	17.1	19.6	3.0	345.5	279.2	159.7
1975	6.1	19.9	20.4	2.7	372.8	462.5	258.5
1976	6.9	22.3	24.1	3.3	399.6	566.7	309.1
Average	4.9	15.1	19.8	2.6			

Note: ¹G.N.P. index based on 1968 prices.

Sources: as for Table 2, in addition the index of real G.N.P. derived from Turkey: An Economic Survey, 1977, op. cit. Table 39. The index of real military expenditure derived from various S.I.P.R.I. Yearbooks. The index of real military expenditure per capita is based on military expenditure figures from S.I.P.R.I. and population figures from I.M.F. Financial Statistics, Sept. 1980.

military burden was declining, until 1975, the share of education in G.N.P. was rising. In so far as expenditure on defence was at the expense of education there could have been a heavy price to pay in terms of economic growth. It is widely recognised that the contribution of labour to growth may be greatly increased when education is taken into account. Dennison (1967) studied the growth performance of nine Western countries in the post-war period and observed that education made varying contributions to the growth of individual countries, but was particularly important for the U.S.A.¹⁷ Maddison (1970) also found that education (and health) had a positive effect on the growth rate through the 'effective' labour supply for developing countries, although Nadiri (1971) found that the contribution of education to growth was relatively small.

Most of the empirical studies carried out on the importance of factor inputs in the growth achievement of developing countries find a positive influence for capital.^{18,19} Maddison (1970) estimated that for Turkey over the period 1950-65 out of an annual growth rate of 5.2 per cent, 2.5 per cent came from the contribution of non-residential capital. It is interesting, therefore, to compare the allocation of resources to defence and investment, which can be seen in Table 3.3. On the face of it Turkey has not neglected investment in pursuing a policy of military strength, since an average of 16.1 per cent of G.NP. has been allocated to investment between 1952 and 1976, which was more than three times the level of resources put into defence. When the investment component is disaggregated, however, the Turkish achievement was not so impressive (see chapter 2, Table 2.4). Up to 1970 it was normal for about 20 per cent of all investment to go into residential building, and only about 30-35 per cent into machinery and equipment, which was no more than the defence allocation and was lower than other countries, at a similar stage of development, were putting into this vital element of investment. It is certainly plausible that military expenditure was partly at the expense of investment, although this needs to be established using regression analysis, and is considered in chapter 7.

International Comparison

In the period 1950 to 1977 world military expenditure increased by approximately 200 per cent, and by 1979 stood at \$480 billion. This figure was equivalent to about 5 per cent of total world income and was approximately of the same magnitude of resources that were devoted to health and education. Military expenditure within N.A.T.O. in 1977 is summarised in Table 3.4, which shows that Turkey with the lowest per capita income had the highest defence burden. The average (unweighted) per capita income within N.A.T.O. in 1977 was \$6452, which was nearly six times higher than the Turkish per capita income, yet the average burden of defence was only 3.4 per cent compared with 6.6 per cent for Turkey.

Between 1970 and 1976 while world military expenditure increased by almost 6 per cent in real terms, and N.A.T.O. military expenditure actually declined by 7.5 per cent, Turkey increased its defence expenditure by a staggering 184 per cent. This is shown in Table 3.5. Even though real G.N.P. increased by 55 per cent in Turkey between 1970 and 1976 the military burden increased much more rapidly and occurred at a time when the economy of the country was descending into the worst crisis of the post Second World War period.

Over the longer period 1950-76 an increasing share of world military expenditure has been carried

TABLE 3.4

N.A.T.O. Defence Expenditure in 1977,
at current prices and exchange rates, \$

<u>Country</u>	<u>Defence Expenditure (millions)</u>	<u>Defence as percentage of G.N.P.</u>	<u>Per Capita Income</u>	<u>Population (millions)</u>
	(1)	(2)	(3)	(4)
Belgium	1,820	2.7	7,590	9.8
Canada	3,610	2.1	8,460	23.3
Denmark	1,080	3.2	8,040	5.1
France	11,720	3.3	7,290	53.1
F.R. Germany	13,760	3.1	8,160	61.4
Greece	1,100	4.8	2,810	9.2
Italy	4,640	2.9	3,440	56.3
Luxembourg	25	1.0	7,560	0.4
Netherlands	3,360	3.9	7,150	13.9
Norway	1,120	3.6	8,550	4.0
Portugal	461	2.9	1,890	9.6
Turkey	2,650	6.6	1,110	41.9
U.K.	10,880	4.8	4,420	55.9
U.S.A.	109,700	6.5	8,520	220.0

Sources: Columns 1 and 2 from I.I.S.S.,
The Military Balance, quoted in
D.K. Whynes (1979);²⁰ Columns 3
and 4 from World Development Report,
1979, The World Bank, Table 1.

TABLE 3.5

Military Expenditure in 1970 and 1976
in U.S. \$ millions, at 1973 prices
and exchange rates

	<u>1970</u>	<u>1976</u>	<u>Percentage</u> <u>change</u> <u>1970-76</u>
N.A.T.O.	127,446	117,873	-7.5
World Total	256,007	270,746	5.8
Turkey	675	1,916	183.9

Source: Derived from I.I.S.S., The
Military Balance, 1977.

out by less developed countries, although the pattern of expansion has not been uniform, as Table 3.6 indicates. The expansion of military expenditure was greater in the less developed world than in N.A.T.O., W.T.O. or the world as a whole, but the greatest increase occurred in Africa and the Middle East, two areas where military expenditure was very low in 1950. As for Turkey it can be seen that the expansion of military expenditure up to 1970 was below average, but by 1976 it was greater than for all regions of the world apart from Africa and the Middle East.

In comparison with developing countries Turkey's defence burden in 1977 was greater than all apart from

the Middle East countries plus China (8.4), Nigeria (9.9), Somalia (8.3), Zambia (12.4), Pakistan (8.1), N. Korea (11.2), S. Korea (9.8), Laos (12.8) and Chile (6.8).²¹

TABLE 3.6

Growth of Military Expenditure
for Selected Years 1950-76, by Region
1950=100; constant 1960 prices
and exchange rates

	<u>1950</u>	<u>1955</u>	<u>1960</u>	<u>1965</u>	<u>1970</u>	<u>1976</u>
N.A.T.O.	100	221	230	252	292	270
W.T.O.	100	126	115	157	224	228
Middle East	100	167	297	522	1343	4681
South Asia	100	114	125	267	271	374
Far East	100	141	204	249	363	463
China	100	91	102	200	302	283
Oceania	100	160	145	215	293	298
Africa	100	180	640	1760	3377	8169
Central America	100	100	122	154	204	308
South America	100	123	147	189	253	376
World	100	171	174	212	273	289
TURKEY	100	138	161	208	226	641

Source: Derived from S.I.P.R.I. Yearbooks, various dates.

CHAPTER 4

THE DETERMINANTS OF MILITARY EXPENDITURE

Turkish military expenditure increased in real terms from \$191 million in 1952 to \$1082 million in 1976 (see Table 3.1), although the annual changes in military expenditure varied considerably, ranging between a fall of 5.7 per cent in 1956 to an increase of 65.7 per cent in 1975. This variation in the growth of military expenditure, which is shown in Table 4.1, can be related to the changing demands made on the military in Turkey in carrying out its specific functions.

These functions can be summarised as follows:

1. National security.
2. Internal law and order.
3. Ideology, nationalism and modernisation.
4. Imperialism.

In addition military expenditure in Turkey may also have been influenced by:

5. Economic and power interests of the military establishment.
6. Economic Policy.

Each of these factors will be considered in detail in order to analyse their significance for the growth of military expenditure in Turkey.

TABLE 4.1

The Annual Percentage Change in the
Level of Turkish Military Expenditure,
1952-76, in 1960 prices

<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>	<u>1956</u>
4.4	10.5	2.8	5.1	-5.7
<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
-1.9	3.3	15.1	6.0	8.0
<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
5.9	-1.0	6.6	6.2	-3.2
<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>
0.3	9.0	-1.9	7.0	17.1
<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
4.0	5.0	9.4	65.7	22.5

Source: Derived from I.I.S.S., Military Balance, 1977.

1. National Security

The growth of the military in modern times (say since 1800) has been very closely related to conflicts over designating the territorial limits of a nation state. Attempts to define a nation state in terms of ethnicity, culture, religion or language are bound to overlap (Zubaida, 1977),¹ and where discrepancies occur between the actual territorial limits of a country and its claimed space, perhaps based on historical possession by ancestors, then conflict can arise. This does not mean, however, that states only fight over territory, where a compromise is always possible, but sometimes it is a goal which cannot be shared, like autonomy or glory. Karl von Clausewitz² made an important contribution to understanding the growth of the military in his study of warfare and military strategy, which took as a basic assumption the independence of the nation. Clausewitz stressed that relations between states are continuous and determined by political considerations. In peacetime politicians make use of diplomatic channels to conduct their relations with other states, although this does not preclude the use of arms if conflict arises or when the state is being threatened. Violent conflicts between states are endemic which can only be constrained by war, although war itself does not exclude diplomacy. The conduct of military operations can be called strategy but both diplomacy and strategy are subordinate to politics. As Clausewitz stated:

"War is not merely a political act but also a real political instrument, a continuation of political commerce, a carrying out of the same by other means."³

What is clear from this statement is that war is seen as one phase in the continuity of relations between states. Furthermore, "war is an act of violence intended to compel our opponents to fulfill our will ... physical force ... is therefore the means; the compulsory submission of the enemy to our will is the ultimate object."⁴ In a situation where conflict exists Clausewitz deduced that war would escalate, because of the 'dialectics of the contest.'⁵ War is an act of violence pushed to its utmost bounds; as one side dictates the law to the other there arises a sort of reciprocal action which logically must lead to an extreme."⁶ The enemy must be defeated, otherwise there is always the danger that relations between states will be reversed.

One fundamental criticism of Clausewitz's 'dialectics of the contest' is that it does not permit a compromise solution to conflict, which can only be understood in a specific historical setting. Nevertheless his general analysis of war, which is seen as an instrument of political action, and is likely to escalate, although not necessarily to the point of destruction, seems to be relevant to understanding the arms build up that has taken place in recent years. Even in the second half of the twentieth century when many countries

possess the means of mass destruction, war remains the ultimate constraint to conflict. Some states are impelled by hunger, adventure or the pressure of other 'barbarians' to "reproduce the basic pattern, which is repeated again and again, throughout history ... peoples clash on a stretch of earth which the stronger takes possession of." (Aron, 1958).⁷ Aron argues that the object of war is "the hegemony of one over others",⁸ and it occurs when settlements by negotiation or compromise are impossible. The societies of today are no different from those of the past as regards the apparent causes of war, whether "it is a question of creating a state, or spreading an idea or fighting over an empire the twentieth century is the same as always",⁹ even though the instruments of war are different. In spite of the widespread availability of nuclear weapons, countries continue to hold arms, some in order to defend themselves, others to assert their rights or conquer living space.

Since the Second World War international and bilateral attempts at disarmament have largely failed, partly, perhaps, because politicians and the countries they represent feel they have something to gain from a position of military strength, but also because the means of controlling the production and possession of arms is imperfect. It is always possible that decisive weapons could be hidden and remain undetected, and, therefore, states prefer an uneasy security offered by

the capacity for reprisal to international agreement which is unreliable. In any case the existence of nuclear weapons does not rule out the need for conventional alternatives. Precisely because a thermonuclear war is 'insane', politicians need the alternatives in order to make it unnecessary to use the nuclear weapons. Yet the logic of deterrence leads to the possession of both nuclear and conventional weapons and technological progress in military hardware merely brings about an escalation of military spending. Moreover the belief that mankind might survive a 'thermonuclear apocalypse'¹⁰ provides a rationale for holding nuclear weapons, and once there is a basis for 'minimum deterrence' there is some rationality for believing peace can be maintained by increasing the 'balance of terror' which therefore leads to a proliferation of nuclear weapons.

It is clear that countries possess arms for both offensive and defensive objectives, and will continue to do so while there is no international law or supra-national body that can enforce peace between nations.¹¹ A large part of the growth in military expenditure observed in Turkey in the period 1952-76 would seem to be explained by strategic considerations. The major threat to Turkey's territorial integrity has been defined by the West as emanating from Soviet expansionism, which led to Turkey becoming a full member of N.A.T.O. The relations between Turkey and the Soviet Union will be considered in chapter 6 but it does seem plausible

that the Turkish military commitment and the growth of defence expenditure were a response to the Soviet threat. There was also the conflict between Greece and Turkey which flared up on several occasions before the invasion of Cyprus and the dispute over the Aegean in the 1970s brought the two countries to the brink of war. There is no doubt that the two traditional enemies viewed each other with suspicion but it remains to be established whether their military build-ups were in any way related.

An Arms Race Model

The explanation of the level of military expenditure of one country as a response to potential threats to national security by another can be formulated in terms of 'interactions between nations.' The Richardson¹² arms race model has been the basis of attempts¹³ to analyse the motives that lead a nation in time of peace to increase or decrease its military expenditure. He listed the following motives:

"... revenge or dissatisfaction with the results of treaties; these motives are independent of existing armaments. Then there is the very strong motive of fear which moves each group to increase its armaments because of the existence of those of the opposing group. Also there is rivalry which, more than fear, attends to the difference between the armaments of the two groups rather than to the magnitude of those of the

other group. Lastly there is always a tendency for each group to reduce its armaments in order to economise expenditure and effort."¹⁴

The simplest representation of the interaction between two nations that Richardson took was:

$$dx/dt = ky \quad (1)$$

where t is time, x represents his own defences, y represents the menace of the other nation, and k is a positive constant which Richardson called a 'defence coefficient.' The other nation has a similar function:

$$dy/dt = kx \quad (2)$$

The system described by these equations is unstable, yet it would be false to assume that the international system would inevitably be unstable. Richardson argues that what is left out of the system is the cost of armaments which would have a restraining effect. If the equations are changed to allow for the effect of one's own military expenditure, then the arms race model becomes a set of linear differential equations, as follows:

$$dx/dt = ky - ax \quad (3)$$

$$dy/dt = lx - by \quad (4)$$

where a and b are positive constants representing the fatigue and expense of keeping up defences, and k and l are positive defence or reaction coefficients, which in this latter formulation are possibly unequal.

Richardson also recognised that by introducing

constants into the equations account could be taken of exogenous militarism or grievance factors:

$$dx/dt = ky - ax + g \quad (5)$$

$$dy/dt = lx - by + h \quad (6)$$

where g and h are the grievance terms. This model can be used to analyse certain problems of foreign policy.¹⁵ If g , h , x and y are all made zero simultaneously the equations (5) and (6) show that x and y remain zero. This, in a sense, is the ideal solution since it gives permanent peace with disarmament and satisfaction. If there is mutual disarmament without satisfaction then disarmament will not be permanent, since $dx/dt = g$ and $dy/dt = h$. This model also predicts that unilateral disarmament is not permanent, since if $y=0$ then the equations become:

$$dx/dt = -ax + g$$

$$dy/dt = lx + h$$

The second of these equations implies that y will not remain zero if the grievance term h is positive, so that when y increases the term ky will cause x to grow too.

Using multiple regression analysis and annual data from the period 1952--76 we have tried to find out to what extent the Richardson model is able to explain changes in military expenditure for Turkey. It was decided to use a two country model and to take Greece, the U.S.S.R. and the Warsaw Pact countries as the 'other'

country. The following results were obtained:

$$1. \quad DX = -84.035 + 0.454X - 0.176Y$$
$$\quad \quad (4.5) \quad (3.3) \quad (1.0)$$

$$R^2 = 0.724 \quad S = 43.1 \quad ME = 37.1 \quad DW = 2.4$$

The figures in brackets give the t statistic, where:

DX = the change in military expenditure in Turkey
i.e. $X_t - X_0$

X = Turkish military expenditure

Y = Greek military expenditure

All military expenditure measured at constant, 1960, prices.

$$2. \quad DX = -15.068 + 0.39X - 0.003V$$
$$\quad \quad (0.4) \quad (7.2) \quad (2.1)$$

$$R^2 = 0.76 \quad S = 40.3 \quad ME = 37.1 \quad DW = 2.6$$

where V = U.S.S.R. military expenditure.

$$3. \quad DX = -20.831 + 0.4X - 0.002W$$
$$\quad \quad (0.6) \quad (7.0) \quad (2.1)$$

$$R^2 = 0.76 \quad S = 40.2 \quad ME = 37.1 \quad DW = 2.6$$

where W = Warsaw Pact military expenditure.

The results do not support the existence of an arms race between Turkey and her main rivals and indeed are not very meaningful. In each of the three formulations the constant or grievance term is negative, which suggests

no rivalry. The other coefficients in each formulation are the reverse of what one would expect, that is the fatigue coefficients are positive and the defence or reaction coefficients are negative. As the R^2 is no more than 0.76 and S/ME is large it suggests that the equations may be misspecified, or that an important variable explaining military expenditure has been omitted. As the invasion of Cyprus in 1974 led to a large increase in military expenditure it was decided to include this effect by introducing a dummy variable. Once again with DX the dependent variable the following results were obtained:

$$4. \quad DX = 20.582 - 0.125X + 0.145Y + 272.417D$$

$$\quad \quad (0.8) \quad (0.8) \quad (1.1) \quad (5.0)$$

$$R^2 = 0.87 \quad S = 29.6 \quad ME = 37.1 \quad DW = 2.0$$

where D = dummy variable, takes values of 1 for 1975 and 1976 and 0 elsewhere.

$$5. \quad DX = -17.519 - 0.156X + 0.003V + 337.143D$$

$$\quad \quad (0.7) \quad (1.3) \quad (1.7) \quad (4.7)$$

$$R^2 = 0.89 \quad S = 28.5 \quad ME = 37.1 \quad DW = 1.8$$

$$6. \quad DX = -13.768 - 0.192X + 0.002W + 351.468D$$

$$\quad \quad (0.6) \quad (1.5) \quad (1.9) \quad (4.8)$$

$$R^2 = 0.89 \quad S = 28.1 \quad ME = 37.1 \quad DW = 1.8$$

These are better results and do provide some evidence for the Richardson model although the S/ME value is still high. It was also found that if equations (5) and (6) were respecified to include military expenditure for the U.S.S.R. and the Warsaw Pact lagged one year to allow time for reaction then the results improved further. (N.B. it made no difference if Greek military expenditure was lagged).

$$7. \quad DX = -20.561 - 0.177X + 0.003V_{-1} + 344.465D$$

$$\quad \quad (0.8) \quad (1.5) \quad (1.9) \quad (4.9)$$

$$R^2 = 0.89 \quad S = 28.0 \quad ME = 37.1 \quad DW = 1.9$$

where V_{-1} = U.S.S.R. military expenditure lagged one year.

$$8. \quad DX = -16.217 - 0.212X + 0.003W_{-1} + 357.804D$$

$$\quad \quad (0.7) \quad (1.6) \quad (2.1) \quad (5.0)$$

$$R^2 = 0.89 \quad S = 27.7 \quad ME = 37.1 \quad DW = 1.9$$

where W_{-1} = Warsaw Pact military expenditure lagged one year.

Formulations (4) - (8) result in plausible values for the coefficients of the model, apart from the grievance term, which once again comes out negative, except in equation (4), although it remains statistically insignificant. If the militarism or grievance term is taken to be zero then it implies that unilateral disarmament on Turkey's part would be stable and permanent,

although this does not seem to accord with Turkey's history or present day reality, and in any case, as will be apparent later, there are other factors accounting for the presence of the military in Turkey. The fatigue coefficients are negative and the defence or reaction coefficients are positive, as Richardson suggested they should be. There is little to choose between taking Greece, the U.S.S.R. or the Warsaw Pact countries as a whole in determining Turkish military expenditure, the results being almost identical. A possible explanation of this is that the military reaction between Greece, Turkey and the U.S.S.R. is interrelated, so that each country reacts positively to a change in military expenditure that occurs in either of the other two countries.

While the Richardson arms race model has produced what appears to be plausible results it is important to recognise the limitations of the model. Firstly, the model is only as good as the data, and there is uncertainty over the degree of reliability of the data for this kind of analysis. Secondly, and perhaps most importantly, the model looks at the arms race from outside, that is without having inside knowledge of decisions that are being made by military planners. Therefore, while the model may provide a useful descriptive framework for military expenditure, it is a mechanistic model which gives little insight into the real determinants of military expenditure. In order to understand military

expenditure more fully, it would be necessary to derive the parameters of the reaction functions in terms of the principles on which the state acts,¹⁶ but this requires a theory of the state to be incorporated into the model and is beyond the purpose of the present study, although we shall consider the role of the state in determining military expenditure as part of economic policy later in the chapter.

2. Internal Law and Order

The previous section has analysed the growth of military expenditure in terms of interactions between nations. It is the state that determines the level of military expenditure and the 'orthodox' analysis implicitly assumes that the state is neutral and is concerned to maximise some national interest function by equating opportunity costs and security benefits at the margin. To be operational the orthodox maximising analysis assumes that the state has knowledge of a well defined national interest, where the nation is threatened by attack from other nations and must therefore arm in order to discourage the aggressors, since maintaining a balance of power helps preserve peace. Because military expenditure involves problems of social choice and inevitable conflict of interests within society the orthodox analysis must assume that democratic pluralist systems are neutral, able to achieve a consensus and then able to carry out the appropriate

measures. As Smith (1977)¹⁷ points out: "This emphasis on consensus may explain why much ... writing ... (on the subject) ... ignores the internal role of the military, regarding the potential enemy as external to society. The existence of potential enemies is taken for granted, since war is assumed to be endemic to human society, because of the nature of man, or of the state, or of the international system."

This view that the state and, furthermore, the military, as a servant of the state, are neutral and free from ideological inclinations is not universally accepted. Miliband (1973)¹⁸ argues that the pluralist view of society which assumes that power is competitive, fragmented and difused is essentially wrong. The state and the military "constitute a deeply conservative and even reactionary element ... in society generally" and the "social origin, class situation and professional interest" of the servants of the state, including the military, means that the "national interest is conceived in acutely conservative terms ... which entails an unswerving hostility to radical ideas, movements and parties."

* Baran (1967)¹⁹ also analyses the role of the military in terms of its internal function as part of the repressive state apparatus. "The conclusion is inescapable that the prodigious waste of the underdeveloped countries' resources on vast military establishments is not dictated by the existence of

an external danger. The atmosphere of such a danger is merely created and recreated in order to facilitate the existence of comprador regimes in these countries, and the armed forces that they maintain are needed primarily, if not exclusively, for the suppression of internal popular movements for national and social liberation."

The growth of military expenditure that Baran refers to can only be fully understood in terms of his analysis of neo-imperialism, which will be considered later. In the case of Turkey there seems little doubt that the military has been employed to maintain law and order and to repress 'popular movements for social liberation.' Three times in the post-war period the military have been required to suspend government and to establish military rule. In May 1960 there was a bloodless coup when the army overthrew the government of Adnan Menderes. The country had been in the midst of an economic crisis since the devaluation of 1958 and a highly politicised electorate were making demands that could not be met. Mounting opposition to the government from the press, intellectuals, and students led to increasing repression and finally the declaration of Martial Law. This was followed by the military coup which had been openly solicited by the urban intelligentsia.²⁰ After introducing a new constitution the army allowed elections to be held in October 1961 and power was handed back to civilian government.

The second coup, again bloodless, was in March 1971 which led to the government of Suleyman Demirel being overthrown. 1970 was a year of widespread popular opposition to the government which culminated in a massive workers demonstration in June. Demirel was forced to introduce Martial Law in order to give breathing space for the government to change the 1961 Constitution so as to limit some of the political freedoms gained at that time. Instead of bringing the crisis under control the introduction of martial law led to even greater violence and social unrest which caused the military to take power "in order to safeguard the Republic."²¹ This time the armed forces retained power for more than two years and during this period concentrated on suppressing the activities of the Turkish Labour Party and the Confederation of Revolutionary Trade Unions (Devrimci Isci Sendikaları Konfederasyonu or D.I.S.K.).

The restoration of civilian government in 1973 marked a new period of trade union activity which escalated as the decade progressed, and went beyond economic struggle into demands for political change. At the centre of the workers' movement was D.I.S.K. which had increased its power with the rise in union membership in the 1970s. In the period 1975 to 1977 a large number of political murders took place, mainly carried out by right wing commando groups, known as the 'Grey Wolves',²² yet, as Amnesty International point out, "there does not appear to have been any real attempt

by the police (the army) or the government to end the violence or to prevent killings."²³ The official tolerance of the murders committed by the Grey Wolves is explained by Berberoglu, (1981)²⁴ as reflecting the growing political influence of the National Action Party, which was able to obtain key positions within the state apparatus, especially in the secret service, police and armed forces.

During the period leading up to the third military coup in September 1980, and particularly after the massacre of over 100 people at Kahramanmaras in December 1978, which precipitated the introduction of martial law, the military forces were employed to smash the radical movement. While martial law was operating the army and the gendarmerie were used to search out 'progressive' people and imprison them, to close down 'progressive' organisations, to take possession of publications that were banned and to put down riots and demonstrations. Following the example of Ataturk military leaders have been reluctant to wield political power, yet in times of crisis they have become the ultimate guarantors of social stability, which in practice has meant a commitment to the West and opposition to communists and members of the Turkish Labour Party. This support for the West and the free market system on the part of the military has been reinforced in recent years since the military became owners of large sections of private enterprise through the Armed Forces Mutual Assistance

Fund. These vested interests of the military are considered later in the chapter.

Examination of the composition of Turkey's armed forces shows that they are very well suited to dealing with internal unrest whether in the form of demonstrations, riots or attacks by armed groups. Out of total armed forces of 480,000 in 1976,²⁵ 375,000 were in the Army and there were another 75,000 Para-military forces in the form of the Gendarmerie which could easily and quickly be manoeuvred into action in times of national emergency. Within the army there was in 1976 1 armoured division, 2 mechanised infantry divisions, 14 infantry divisions, 6 armoured brigades, 4 mechanised infantry brigades, 5 infantry brigades, 1 parachute brigade and 1 commando brigade, and all of these units were suitable for dealing with internal unrest. The Turkish military, in 1976, possessed the full range of guided missiles, which were vital for external conflict, but it also possessed very large numbers of tanks, armoured personnel carriers, rifles, helicopters and ground attack fighters which were equally, if not more, appropriate for dealing with outbreaks of civil unrest.

It has been argued in this section that the military in Turkey has been used, or it has taken independent action, to maintain law and order. This suggests that the level of military spending may have been a function of internal conflict, and it is this hypothesis that we wish to test. The first problem is how to measure

the level of internal conflict or unrest. Several variables would seem to be appropriate measures of social and political conflict, for example the number of political demonstrations per time period, the number of political killings, the number of political arrests or convictions, but unfortunately it is impossible to obtain a complete set of figures for any of these variables over the period being considered. It is necessary, therefore, to proxy internal conflict with variables that are available. It will be assumed that periods of political instability and unrest are made worse by poor economic performance, so that when the economy has been in crisis this has been reflected in political crisis, which has required the intervention of the military and may have stimulated military spending. The variables selected as proxies for economic crisis are as follows:

1. G.D.P. per capita, where it is assumed that low levels of this variable will result in social unrest.
2. The inflation rate.
3. The balance of trade gap - as this gap widens then the excess of imports over exports increases, which may require unpleasant economic policies.
4. Total working days lost through strikes and lockouts.

Using multiple regression analysis and annual data from the period 1952-76 we have tried to find out to what extent these proxies for civil unrest explain the level of military expenditure. The following results

were obtained:

$$\begin{aligned} 1. \quad X &= -148.19 + 0.132G.D.P.C. - 1.056P \\ &\quad (3.8) \quad (9.7) \quad (0.9) \\ &\quad + 5.74B.O.P. + 387.0D \\ &\quad (0.9) \quad (9.6) \end{aligned}$$

$$R^2 = 0.979 \quad S = 32.6 \quad M.E. = 376.7 \quad D.W. = 2.2$$

$$\begin{aligned} 2. \quad X &= 316.8 + 0.0002 W.D.L. + 577.2 D \\ &\quad (7.7) \quad (2.3) \quad (10.7) \end{aligned}$$

$$R^2 = 0.926 \quad S = 69.6 \quad ME = 486.6 \quad DW = 2.0$$

where

X = Turkish military expenditure at constant, 1960, prices.

G.D.P.C. = G.D.P. per capita.

P = Inflation rate.

B.O.P. = Surplus of imports over exports.

D = Dummy variable, taking values of 1 for 1975 and 1976 and zero elsewhere.

W.D.L. = Working days lost through strikes and lockouts.

The results are not very conclusive and perhaps, at first sight contradictory. In equation (1) the coefficient on G.D.P.C. is positive and significant whereas a negative coefficient would have been expected if low levels of G.D.P.C. are taken to indicate an economic crisis exacerbating a political crisis which requires more military expenditure, and high levels of G.D.P.C. to

indicate prosperity and social harmony requiring less military expenditure. The most likely explanation is that G.D.P.C. (and changes in G.D.P.C. which was also tested but not reported) are not necessarily good measures of economic wellbeing, since they tell us nothing about the distribution of income. It is quite possible that a rising G.D.P.C. could have coincided with periods of increasing inequality in the distribution of income,²⁶ which would then be consistent with a positive coefficient. As there is no adequate data on the distribution of income or wealth for Turkey over the period being considered the validity of G.D.P.C. as a proxy for internal conflict must remain uncertain. In any case a positive coefficient on G.D.P.C. may simply confirm that the richer a country is the more it will spend on the military, other things remaining constant.

The coefficient on P is also opposite in sign to that expected, but the t statistic indicates that the coefficient is not statistically significant. The sign on the BOP variable is positive as might be expected, but this too is not statistically significant.

Equation (2) appears to be more in line with the general hypothesis being considered. First, however, it should be pointed out that this was run as a separate regression because data on WDL was only available from 1963, which means only 14 observations were used, and the results, therefore, have to be treated with more

caution. Nevertheless there is a positive coefficient on WDL and the t-value indicates significance although the S/ME value is high. As WDL is probably the best proxy for social and political unrest equation (2) lends support to the hypothesis that military expenditure is at least partly determined by internal political and social unrest, although because of the short period that the data covers care must be taken not to exaggerate the effect. Moreover it may well be that the very large Turkish military, which is required for national security, permits its use in times of internal unrest without requiring any significant increase in military expenditure in the absence of external threats.

3. Ideology, Nationalism and Modernisation

For many developing countries the military has been at the centre of the struggle for political independence. Mustafa Kemal was a general in the Ottoman army who undertook the leadership of the nationalist struggle, and with the help and support of the newly emerging Turkish bourgeoisie was able to remobilise the army. It was the Turkish army under Ataturk that achieved success in the independence struggle of 1919-23, and Ataturk himself who became President of the new Republic.

The role of the military does not have to stop with political independence. Rostow (1971)²⁷ emphasised the importance of the military in generating nationalism which could be a force for modernisation and industrialisation.

"Soldiers often emerge as major actors in the drama of the preconditions (for take off) for multiple reasons: they are evoked or come forward to deal with external intrusion or civil war; they are among the first to become acquainted with modern concepts of administration, through training abroad or foreign advisors; they move by profession more easily than other groups towards loyalty to nation and sentiments of nationhood; and in inherently turbulent times, when the legitimacy of traditional rule is shaken they have access to raw power."²⁸

It must be clearly understood that the military are not necessary for nationalism to exist nor is nationalism necessary for modernisation.²⁹ Furthermore it is not at all obvious that the military are, always a force for modernisation.

Pye (1962)³⁰ makes a number of points to show that military institutions are most likely to induce modernisation. At one level military organisations are very close to "the ideal type for an industrialised and secularised enterprise" in a non-industrial country. The military is seen as a modern institution. It provides a "training in citizenship" and introduces the conscript to modern ideas as well as giving an education which is relevant to the civilian economy.^{31,32} As Gutteridge (1965)³³ emphasises: "An effective army, and eventually a navy and airforce, may be one way of

creating a national image of a 'modern' state." Furthermore, as Hurewitz³¹ argues, the military stresses professionalism and discipline and the officers are dedicated to public service.

A second reason why the military is unique in the process of modernisation according to Pye is that it is 'emotionally secure' which permits it to take from the West the ideas and technology that will enhance modernisation. This point is also made by Daalder (1962)³⁴ who adds that the military being a modern institution is more likely to introduce economic reforms and in times of crisis the military can provide the necessary leadership.

A third explanation is that the 'process of acculturation' within the army permits a more secure transition to modern life. Levy (1956)³⁵ also argues that the military have the advantage of being a force for modernisation and social change while maintaining stability and control.

Janowitz (1964)³⁶ has argued that because the military owes no allegiance to "an integrated upper class" it is less likely to have a "pervasive conservative outlook." Moreover when political institutions are weak military officers "develop a sense of public service and national guardianship as a result of their military training and experience."

Halpern (1963)³⁷ has studied the military in Middle Eastern countries and has argued that the officers are

part of a new middle class that aim for status, power and prosperity and are committed to nationalism, social reform and modern technology. Spier (1967)³⁸ also emphasises the middle class position of military officers who possess administrative and technological skills, stand for social change and a break with tradition, but are also strongly anti-communist. The fact that a strong military ensures a non-communist development path is also emphasised by Bienen (1971)³⁹ and Sloan (1963).⁴⁰

The modernisation arguments have been criticised by Nordlinger (1970) who argues that military values stress nationalism, discipline, custom and ritual which are likely to hinder economic progress. Nationalism can also be an ideological tool used by the state, the bureaucracy and the military to divert attention away from domestic problems and conflicts. Eleazu (1973)⁴² has criticised the idea of the military organisation being the most modern institution within Africa, and cites the example of West Africa where the civil administrations have longer experience and a more modern outlook. The point is that it is impossible to generalise about the contribution of the military organisation to economic progress since different countries are influenced in different ways.

In the case of Turkey the military as the oldest social institution traditionally performed an important role in the rule of the country, but with independence

in 1923 Ataturk separated civil and military powers, with the result that the military came to take up a position outside politics. Hurewitz (1969) has argued that the drive for modernisation in Turkey was present before Ataturk and that the military have only had an indirect effect on modernisation. Janowitz (1964) stressed that the military could have a special role in inducing modernisation, but in the case of Turkey while intervention in domestic politics has been easy the military have found it more difficult to govern. This point is reinforced by the study of Lerner and Robinson (1960)⁴³ who argue that the military have been important in nation building but it was civilian government that was instrumental in generating economic and social progress.

In conclusion it seems unlikely that variations in the level of Turkish military expenditure can be directly explained by the ideological, nation building and modernisation roles of the military, although this is not meant to deny their importance in the Turkish case. It is more likely that this function of the military, particularly the ideological component, which can be viewed as the long-run counterpart to the 'repressive' function, has influenced the level of resources devoted to defence over time, rather than accounted for short-run variations.

4. Imperialism

According to Marxist theory, the 'capitalist mode of production' is not a static concept, but, rather, the dynamic of capitalism produces mutations. Marx distinguished the move from the competitive stage of capitalism to the monopoly stage, but it was Lenin who in 1916 distinguished the transition to imperialism, as the highest stage of capitalism.⁴⁴ Lenin's definition of imperialism embraced the following five essential features:⁴⁵

1. The concentration of production and capital developed to such a stage that it creates monopolies which play a decisive role in economic life.
2. The merging of bank capital with industrial capital and the creation, on the basis of 'finance capital' of a financial oligarchy.
3. The export of capital, which has become extremely important, as distinguished from the export of commodities.
4. The formation of international capitalist monopolies which share the world amongst themselves.
5. The territorial division of the whole world among the great capitalist powers is completed.

Between 1815 and 1914 Britain was the unchallenged leader of the capitalist world, but after the First World War American strength increased while Britain's position was in decline. After 1945 the U.S. emerged

as the undisputed leader nation of the capitalist world, in as commanding a position as Britain had been after 1815.

This dominant position of the U.S. required her to maintain extremely high levels of military expenditure, even after the peace of 1945. With a growing number of former, mainly European, colonies obtaining political independence after 1945, the U.S. has used its enormous military and financial power to keep as much of the world as possible open for capitalist penetration. As Magdoff (1972)⁴⁶ put it:

"A substantial portion of the huge military machine, including that of the Western European nations, is the price being paid to maintain the imperialist network of trade and investment in the absence of colonialism. The achievement of political independence by former colonies has stimulated internal class struggles in the new states for economic as well as political independence. Continuing the economic dependence of these nations on the metropolitan centres within the framework of political independence calls for, among other things, the world-wide dispersion of U.S. military forces and the direct military support of the local ruling classes."

If Magdoff is right then it would be wrong to assume that a theory of imperialism is only relevant to explaining the level of metropolitan country military expenditure.⁴⁷ In the case of Turkey not only has it

received supplies of armaments and military aid from the U.S.A. but it has also been compelled to contribute a large part of its own G.N.P. to military purposes. Kennedy (1975)⁴⁸ gives data on military expenditure in the Third World which shows that the countries with the highest defence burdens (military expenditure as a percentage of G.N.P.) all received substantial military aid either from the U.S.A. or the U.S.S.R.

On March 12th 1947 President Truman told Congress:

"It must be the policy of the United States of America to support free peoples who are resisting attempted subjugation by armed minorities, or by outside pressure."

This became known as the Truman doctrine and led to Congress authorising \$400 million of aid to Greece and Turkey in the period to June 1948. The Truman doctrine was designed to deal with the specific threat to Greece and Turkey and paved the way for their absorption into N.A.T.O. in 1952. The North Atlantic Treaty was seen as presenting a framework for wide co-operation among its signatories by providing 'joint action in the political, economic and social fields.' Article three of the Treaty deals with ways and means of maintaining and increasing the individual and collective capacity of members to resist armed attack. The Treaty also covered the problem of sharing the defence burden. The stated principle was that the burden of defending the West should be shared

equitably among the member countries, so that the countries finding it economically difficult to meet their military commitments would be helped under the Mutual Defence Equipment Programme. Nevertheless there was to be a continuing process of appraising defence programmes in the light of economic and political developments, through the Annual Review of the defence effort undertaken by member countries, and the level of aid given would be conditional upon this being satisfactory.

Membership of N.A.T.O. meant that Turkey's military expenditure was to a large extent determined by the U.S. through the N.A.T.O. Military Authorities. "In determining the size and nature of their contribution to the common defence, member countries have full independence of action. All the same, the collective nature of N.A.T.O.'s defences demands that in reaching their decisions governments take account of the force structure recommended by the N.A.T.O. military authorities and the long term military plans of their partners."⁴⁹ The same document goes on to say: "The provision of adequate forces for implementing the agreed strategic concept involves inter-related questions of strategy, force requirements and the resources available to meet them ... there must be adequate resources applied to the fulfillment of the agreed defence programmes."⁵⁰

The U.S. has used the Soviet 'military menace' as its justification for its foreign policy, thus disguising its true aim of maintaining American world hegemony. It

seems quite plausible that U.S. and Soviet imperialism, through various treaties and bilateral agreements, has been instrumental in maintaining and increasing the level of military expenditure of certain less developed countries of which Turkey is one.

Two separate issues will be considered empirically. First of all, the hypothesis that Turkish military spending is a function of American foreign policy will be tested. Secondly, Turkey's share of N.A.T.O.'s defence expenditure will be examined in order to determine whether it is consistent with the concept of ability to pay.

Military Expenditure and U.S. Aid

Since N.A.T.O. must take account of the ability of each member state to take on the military burden it would be unlikely that a simple positive relationship would be found between U.S. and Turkish military expenditure. When Turkish military expenditure is regressed on American military expenditure the coefficient on the independent variable is negative, so we can dismiss the hypothesis that 'every time the U.S. spends more on the military so will Turkey.' Military and economic aid are two variables that might be considered to exert some influence on Turkish military expenditure. Foreign aid is seen by some writers⁵¹ as an instrument through which the developed countries maintain their sphere of influence throughout the world. Chenery (1972)⁵² has argued, some might say admitted, that "economic assistance

is one of the instruments of foreign policy that is used to prevent political and economic conditions from deteriorating in countries where we value the preservation of the present government." Aid, whether economic or military, is only given so long as the recipient government pursues policies that are acceptable to the donor. In 1974 when Turkey invaded Cyprus, a serious crisis in Greek-Turkish relations threatened the very structure of the N.A.T.O. alliance and caused the U.S. Congress to cut off aid to Turkey. Clearly U.S. aid is given on the condition that Turkey pursues policies that are advantageous to the U.S., which may mean the spending of certain sums on defence. It is assumed that military aid is given to Turkey in order to provide hardware which is not available domestically, and that economic aid is designed to release domestic resources which can then be put into defence.⁵³ Using regression analysis and annual data over the period 1952-76 we have tried to determine to what extent Turkish military expenditure is determined by U.S. economic aid. The following result was obtained:

$$\begin{aligned}
 X = & -63.47 - 0.509 \text{ U.S. AID} + 1.265 X_{-1} \\
 & (1.4) \quad (1.9) \quad (14.4) \\
 & + 0.576 \text{ U.S. AID}_{-1} \\
 & (1.9)
 \end{aligned}$$

$$R^2 = 0.935 \quad S = 57.1 \quad ME = 376.7 \quad DW = 2.3$$

where X = Turkish military expenditure at constant, 1960, prices.

U.S. AID = U.S. economic aid to Turkey.

X_{-1} = Turkish military expenditure lagged one year.

U.S. AID $_{-1}$ = U.S. aid lagged one year.

The evidence is not entirely convincing either for or against the hypothesis. There is a negative coefficient on U.S. AID indicating that U.S. economic aid is a substitute for Turkish military expenditure, but the coefficient on U.S. AID $_{-1}$ is positive, which is consistent with the hypothesis, if it is assumed that there is a lagged response of Turkish military expenditure to U.S. economic aid. On the whole the latter explanation seems most likely as the negative coefficient on U.S. AID is probably unduly influenced by the years 1975 and 1976, when in spite of a large Turkish military build-up after the invasion of Cyprus there was a big fall in U.S. aid to Turkey. The high value of S/ME also indicates a large unexplained variation in X.

This is confirmed when the regression is re-run and X made a function of U.S. AID with a dummy variable included to allow for the military build-up of 1975 and 1976. The result was:

$$X = 220.77 + 0.08 \text{ U.S. AID} + 695.95 D$$

(6.8) (3.8) (12.2)

$$R^2 = 0.88 \quad S = 75.6 \quad ME = 376.7 \quad DW = 1.6$$

This result shows that Turkish military expenditure was positively related to U.S. AID and is consistent with

the hypothesis that U.S. foreign policy was an important determinant of Turkish military spending, although once again there is a high value for S/ME.

Turkey's Share of N.A.T.O.'s Military Burden

N.A.T.O. is primarily an alliance for communal defence which gives explicit recognition of mutual commitment. Article 5 of the North Atlantic Treaty states that "an armed attack against one or more of (the members) ... shall be considered an attack against them all, and consequently they agree that ... each of them ... will assist the party or parties so attacked by taking forthwith, individually and in concert with the other parties, such action as it deems necessary, including the use of armed force."⁵⁵ Furthermore, an allied command structure was created which ensured that member states military forces became highly integrated into a unified force.

On the question of finance for the military alliance two principles were regarded as being important. One was to relate defence programmes to available economic resources and the other was to divide the cost equitably among its member nations. This implied that each member's share of the costs of the military alliance would be based on its ability to pay, but it leaves open the question of what indicators would be used to estimate it. This section of the chapter will examine the concept of ability to pay and relate two interpretations of the

concept to the Turkish share of N.A.T.O.'s defence expenditure.

Defence as a Public Good

Defence is frequently considered to be a prime example of a public good⁵⁶ because it satisfies two essential requirements:⁵⁷

1. non-excludability
2. non-rivalry in consumption⁵⁸

National defence which is provided for some members of society is simultaneously provided for others since they cannot be excluded from its benefit. Furthermore, if defence is consumed by one person it does not prevent it being consumed by other people. Defence is not only available to more than one user, but "everyone receives a full share of protection from the military machine" (Margolis, 1955).⁵⁹ The characteristics possessed by defence prevent it being subdivided in order to allow each part to be sold separately to different individuals, and therefore it is impossible to provide defence through the market mechanism. Apart from pacifists, who are opposed to defence expenditure, there would be many people who would opt out of paying for defence in the market place since they could benefit from its provision by other people, therefore, it becomes necessary for the state to provide defence as a collective good.

In the case of N.A.T.O., taken to be a military

alliance, defence, which is provided in part by each of the members, can still be regarded as a 'pure' public good, so long as the commitment to mutual assistance is absolute.⁶⁰ If there is any uncertainty over the meaning of Article 5, or the way it would be interpreted in practice, then defence would need to be treated as a partial public good.⁶¹

The N.A.T.O. military alliance is best seen as a small group providing a public good.⁶² Inevitably within any group some members will value the public good more highly than others, and it then opens up the possibility that those members with a high valuation of the benefits can be 'coerced' into paying more, or even all of the defence costs, although if the public good is only partial, then all members will need to make some expenditure on it.⁶³ Olson and Zeckhauser (1968) present some evidence which they claim shows that the bigger countries (in terms of G.N.P.) contribute a larger share of the N.A.T.O. defence burden, and they take this as indicating that those countries value defence more highly. The problem with this model is that the level of G.N.P. does not necessarily measure each member's valuation of defence, and in any case Kennedy (1979)⁶⁴ presents evidence to show that after 1967 the positive correlation between G.N.P. and defence burdens (military expenditure as a percentage of G.N.P.) for N.A.T.O. countries was not so strong.

Principles of Taxation

The theory of taxation has occupied the minds of philosophers, economists and political theorists since at least the Middle Ages and two major approaches can be distinguished. The first is often referred to as the benefit approach and the second as the ability to pay approach.

Under the benefit approach individuals are required to pay taxation in relation to the services rendered by the public good. For Sir William Petty⁶⁵ and Adam Smith⁶⁶ there was no necessary contradiction between the benefit approach and the ability to pay approach. "The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is in proportion to the revenue which they respectively enjoy under the protection of the state."⁶⁷ In some cases Smith recognised that the individual benefit could not be measured, and therefore the ability to pay approach became necessary. The benefit approach was emphasised in the work of Pantaleoni, Mazzola, Wicksell and Sax⁶⁸ who regarded the equality of tax and benefit as an essential condition for efficient allocation. For these writers the determination of the level and distribution of taxation had to be left to the government which would represent the wishes of the group.

Later on, in the work of Lindahl,⁶⁹ a different

principle of pricing public goods emerged, through voluntary exchange.⁷⁰ This model has been criticised since in order to reach equilibrium it is necessary that the demand for public goods can be determined, but because these goods are non-excludable, preferences will not be revealed, or if they are will be understated. In the case of two individuals the solution therefore will depend on the bargaining skills of the two voters and in the case of large numbers because preferences are not revealed the assumption of voluntary contribution will break down.

Samuelson (1954)⁷¹ has also pointed to a second flaw in the voluntary-payment model. This model assumes that the initial distribution of income is ideal, but when the problem is restated in general equilibrium terms, even if preferences are known, then it turns out that there is no single best solution in the Pareto sense, but an infinite number of Pareto optimum points, which differ in terms of income distribution. If one accepts Samuelson's argument then allocation and distribution are determined simultaneously within the general equilibrium and it is impossible to separate "the determination of social wants by the allocation branch from the determination of the distribution of income available for private use by the distribution branch."⁷²

Because of the problems of trying to apply the benefits approach to taxation, the second approach, the ability to pay, will be used to examine the share of

defence expenditure within N.A.T.O. The ability to pay approach has its origins in an essay by Guicciardini, in the early sixteenth century,⁷³ who argued for progressive taxation based on faculty or competence. J. S. Mill rejected the benefit rule completely, and argued that everyone should be treated equally under the law, and therefore his particular formulation of ability to pay became equality of sacrifice. This raised the question of the precise meaning of equality of sacrifice and how this would be measured in terms of income surrendered. Three distinct concepts of equal sacrifice emerged from the early literature⁷⁴ which are still considered to be relevant today - equal absolute, equal proportional and equal marginal.

With equal absolute sacrifice each individual is required to surrender income through taxation, so that the loss of total utility: $U(Y) - U(Y-T)$ is the same for everyone. Under equal proportional sacrifice each individual loses income so that the ratio of lost utility to total utility: $U(Y) - U(Y-T)/U(Y)$ is the same for all. With equal marginal sacrifice, which Edgeworth took to be the ultimate principle of taxation, each individual pays tax such that in the post tax situation the marginal utility of income: $dU(Y-T)/d(Y-T)$ is the same for all. This last concept is sometimes referred to as the least aggregate sacrifice and leads towards equal absolute post-tax incomes.

In order to apply any of these concepts to a system

of tax collection it is necessary to know the income-utility schedules of everyone and be able to make interpersonal utility comparisons. If it is further assumed that the marginal utility of income declines then it is possible to make some tentative generalisations about the degree of tax progression required to satisfy the various concepts of equal sacrifice.⁷⁵ Equal marginal sacrifice requires the most progressive tax system, that is the higher income groups surrender a larger proportion of their income than the lower income groups. In the case of equal absolute sacrifice the degree of tax progression required depends upon the rate at which the marginal utility of income declines. Where the marginal utility of income declines at the same proportional rate as income increases then equal absolute sacrifice requires a proportional tax. If, however, the marginal utility of income declines at a lower proportional rate than income increases then a regressive tax is required and vice-versa.⁷⁶ Finally, in the case of equal proportional sacrifice, as long as the marginal utility of income declines more rapidly than average utility then a progressive tax is required.

Since in practice the income-utility schedule is unknown, it is impossible to make inter-personal comparisons or to demonstrate that the marginal utility of income declines, so that no specific schedule of tax rates can be derived from any of the concepts of equal sacrifice. For the purpose in hand, that is to determine

an equitable distribution of N.A.T.O. defence expenditure between member states, perhaps the best solution would be to follow Robbins' formula and treat all individuals as if they were equal.⁷⁷

Paying for N.A.T.O.'s Defence

The object of this section is to test whether Turkey's contribution to N.A.T.O.'s defence expenditure can be justified in terms of equality of sacrifice. It will be assumed that defence is a pure public good within the N.A.T.O. alliance and that the burden of the defence expenditure for each country can be measured by the ratio of defence expenditure to G.N.P.⁷⁸ Next, if we accept the principle of ability to pay, how should the defence burdens be related to the per capita incomes of the N.A.T.O. countries? Per capita incomes are not ideal since they are not necessarily a good measure of the standard of living or welfare of each country, but in the absence of a better measure per capita income will be used as a proxy for the level of welfare. There is no information of the utility-of-income schedules of the N.A.T.O. countries on which to work out an appropriate schedule for tax rates, but we do know how particular countries treat different levels of income for tax purposes.

Based on the method employed by De Striou (1968) and more recently by Kennedy (1979), Britain's tax

schedule will be used to determine each country's ability to pay the N.A.T.O. defence burden in relation to their per capita incomes. Thus although the principle of ability to pay is a subjective matter this method proceeds as if Britain has, through its democratic processes, determined an appropriate tax formula which is consistent with the principle of equal sacrifice.

There is still the problem of deciding on the actual schedule of taxation used in Britain. In order to determine how each unit (individual or family) fares in Britain under the system of taxation it is necessary to take into account different forms of taxes and benefits. There are both direct and indirect taxes and benefits that operate in Britain but it is virtually impossible to get enough information on these to be able to estimate a 'net' tax rate.⁷⁹ It will be assumed here that the direct tax rates applied in Britain are the appropriate ones to use, since income tax is generally taken to be the one which aims to satisfy ability-to-pay. However, because it is recognised that indirect taxes and benefits also influence the 'net' tax rates applied in Britain an alternative schedule of taxation has been used in Appendix 2, although the conclusions are broadly similar.

The method employed is to rank the N.A.T.O. countries according to their per capita incomes and the ratio of their per capita incomes to the N.A.T.O. average, which is then used to estimate the tax liability of each

country as if it were an individual in Britain at the equivalent point in the income distribution. Having determined the tax rate that would be paid by each country according to the British tax schedule this is then used to calculate the required defence burden using Britain as a standard.

In Table 4.2 the per capita incomes of N.A.T.O. countries are given for the years 1958 and 1977, and alongside, in columns (2) and (4) the per capita income is shown as a percentage of the N.A.T.O. average.

Table 4.3 shows the direct tax rates that were imposed on individuals at different levels of income in Britain for 1976-77. In the lowest range of income, £735-£1000 p.a. the average tax rate was 3.1 per cent, and this rose to 75 per cent for incomes over £100,000 p.a. The average personal income in Britain in 1976-77 was £3,693.

In Table 4.4 can be found an adjusted tax rate for each country, and then based on that the required defence burden. The adjusted tax rate is calculated as follows, using the U.K. to illustrate. In 1958 the U.K. per capita income was \$1254 (from Table 4.2) which was 119.20 per cent of the N.A.T.O. average. If an individual in Britain had received an income which was 119.20 per cent above the average in 1976-77, this would have been £4402, in the income range £4000 to £4500 (see Table 4.3). Within this income range the average income stood at

TABLE 4.2

Per Capita Incomes of N.A.T.O. Countries
in \$ for 1958 and 1977

<u>Country</u>	<u>1958</u>		<u>1977</u>	
	<u>Per Capita</u> <u>Income **</u>	<u>Per Capita</u> <u>Income as</u> <u>percentage of</u> <u>NATO average</u>	<u>Per Capita</u> <u>Income</u>	<u>Per Capita</u> <u>Income as</u> <u>percentage of</u> <u>NATO average</u>
	(1)	(2)	(3)	(4)
U.S.A.	2602	247.34	8520	143.05
Canada	1979	188.12	8460	142.04
U.K.	1254	119.20	4420	74.21
Belgium	1155	109.79	7590	127.43
Norway	1139	108.27	8550	143.55
France	1107	105.23	7290	122.40
Denmark	1101	104.66	8040	134.99
Germany	1066	101.33	8160	137.00
Netherlands	845	80.32	7150	120.05
Italy	598	56.84	3440	57.76
Greece	384	36.50	2810	47.18
Portugal	246	23.38	1890	31.73
Turkey	204	19.39	1110	18.64
Average*	1052		5956	

Note: * unweighted.

Sources: 1958, U.N. Statistical Yearbook,
1969; 1977, World Development
Report, The World Bank, August
1979.

** This is nominal GDP per capita derived by using exchange rates
to convert each country's GDP per capita into dollars.

TABLE 4.3

The Distribution of Personal Incomes
before Tax in Britain for 1976-77

<u>Range of</u> <u>Income</u>	<u>Average</u> <u>Income £'s</u> (1)	<u>Average</u> <u>Tax £'s</u> (2)	<u>Tax as %</u> <u>of Income</u> (3)
735-1000	875	27.5	3.1
1000-1500	1257	118.0	9.4
-2000	1748	243	13.9
-2500	2248	388	17.3
-3000	2743	522	19.0
-3500	3254	636	19.6
-4000	3753	747	19.9
-4500	4237	860	20.3
-5000	4748	986	20.8
-6000	5459	1188	21.8
-7000	6455	1500	23.2
-8000	7445	1861	25.0
-10,000	8822	2415	27.4
-12,000	10,880	3435	31.6
-15,000	13,185	4741	36.0
-20,000	17,125	7350	42.9
-50,000	27,143	14,929	55.0
-100,000	73,000	51,667	70.8
100,000 +	148,571	111,429	75.0

Overall- average income: £3693

Source: Board of Inland Revenue, Inland Revenue Statistics, London H.M.S.O., 1979, Table 2.3.

TABLE 4.4

The Percentage of G.N.P. to be spent on Defence using the adjusted tax rate as the determinant of the burden sharing, and using the U.K. defence burden as a standard

<u>Country</u>	<u>1958</u>		<u>1977</u>	
	<u>Adjusted Tax Rate</u> (1)	<u>Required Defence Burden (%)</u> (2)	<u>Adjusted Tax Rate</u> (3)	<u>Required Defence Burden (%)</u> (4)
U.S.A.	28.0	10.7	21.6	5.7
Canada	24.0	9.1	21.5	5.7
U.K.	20.5	7.8	19.0	5.0
Belgium	20.1	7.6	20.8	5.5
Norway	20.1	7.6	21.6	5.7
France	20.0	7.6	20.6	5.4
Denmark	20.0	7.6	21.1	5.6
Germany	19.9	7.6	21.2	5.6
Netherlands	19.3	7.3	20.5	5.4
Italy	16.3	6.2	16.5	4.3
Greece	10.2	3.9	13.9	3.7
Portugal	2.9	1.1	8.0	2.1
Turkey	2.5	1.0	2.4	0.6

Source: Method, De Strihou (1968); Kennedy (1979).

Derived from Tables 4.2 and 4.3.

£4237 and the corresponding tax rate imposed was 20.3 per cent. It is necessary to estimate the tax rate that would have been imposed on an income of £4402, which lies in between the average incomes of £4237 (paying tax of 20.3 per cent) and £4748 (paying tax of 20.8 per cent). It is assumed that the tax rate changes in direct proportion to the change in income between the two average income points, which can be easily calculated, and in this case gives an adjusted tax rate of 20.5 per cent for the U.K. in 1958, as shown in Table 4.4. The complete set of adjusted tax rates for each N.A.T.O. country in 1958 and 1977 is given in columns (1) and (3) in Table 4.4. It will be observed that for both 1958 and 1977 Turkey has the lowest adjusted tax rates of all N.A.T.O. countries, being 2.5 and 2.4 per cent respectively. The next step is to calculate the required defence burdens for each country taking into account the corresponding adjusted tax rates and using the U.K. as a standard. The aim is to calculate a required defence burden for each country for the two years, so that the burden is in direct proportion to the adjusted tax rate. In 1958 the U.K. devoted 7.8 per cent of her G.N.P. to defence, and it is assumed that this was appropriate for her income per capita. For 1958 the ratio of the adjusted tax rate to the defence burden for the U.K. was $20.5/7.8 = 2.628$, therefore to find the required defence burden of all other countries it is necessary to divide their adjusted tax rates by 2.628,

and this is done in column (2) of Table 4.4. The same procedure is used to calculate the required defence burdens for 1977, which appears in column (4). Since the adjusted tax rates are derived from a progressive tax formula it follows that those countries with a higher per capita income than the U.K. will be required to carry a higher defence burden. In the case of Turkey, with the lowest per capita income in N.A.T.O. the calculated required defence burdens were low, being 1.0 and 0.6 per cent for 1958 and 1977 respectively.

In Tables 4.5 and 4.6 the required defence burdens and the required defence expenditures are compared with the actuals for the years 1958 and 1977. Because these calculations have used the U.K. as a standard then her defence commitment appears to be appropriate in both years. It would have been an easy matter to have used another, or even all, countries as a standard in turn (Kennedy, 1979) but this would not have affected the over-all conclusion that the poorer members of N.A.T.O. have borne an unfair share of the defence burden. For Greece, Portugal, Turkey and the U.S.A. the actual defence burdens and defence expenditures are above the required levels for both 1958 and 1977. The remaining members of N.A.T.O., apart from the U.K., do not carry a defence burden that can be justified using the criterion of equity used here. In the case of Turkey her excess defence burden (actual minus required) was higher than for any other country in both 1958 and 1977, and,

TABLE 4.5

Allocations to Defence by N.A.T.O. Countriesusing the U.K. defence burdenas a standard, 1958

<u>Country</u>	<u>Required</u> <u>Defence</u> <u>Burden</u> (1)	<u>Actual</u> <u>Defence</u> <u>Burden</u> (2)	<u>G.N.P.</u> <u>U.S. \$b.</u> (3)	<u>Def. Exp.</u> <u>in</u> <u>U.S. \$m.</u> (4)	<u>Required</u> <u>Def. Exp.</u> <u>in U.S. \$m.</u> (5)
Norway	7.6	4.0	4.0	160	305
U.S.A.	10.7	10.9	455.0	49591	34577
Canada	9.1	6.0	33.9	1356	3084
Germany	7.6	3.4	57.9	1968	4399
Denmark	7.6	3.3	5.0	164	378
Belgium	7.6	3.9	10.5	408	794
France	7.6	7.9	49.6	3916	3767
Netherlands	7.3	5.0	9.5	473	690
U.K.	7.8	7.8	64.5	5053	5053
Italy	6.2	4.3	29.3	1262	1819
Greece	3.9	5.8	3.1	182	122
Portugal	1.1	4.5	2.1	96	24
Turkey	1.0	4.5	5.3	239	53

Source: As for Table 4.2,
also I.I.S.S. (1964).

Defence expenditure figures are based on the I.I.S.S. definition of defence spending which may differ from national budget estimates.

TABLE 4.6

Allocations to Defence by N.A.T.O. Countries
using the U.K. defence burden
as a standard, 1977

<u>Country</u>	<u>Required</u> <u>Defence</u> <u>Burden</u> (1)	<u>Actual</u> <u>Defence</u> <u>Burden</u> (2)	<u>G.N.P.</u> <u>U.S. \$b.</u> (3)	<u>Def. Exp.</u> <u>in</u> <u>U.S. \$b.</u> (4)	<u>Required</u> <u>Def. Exp.</u> <u>in U.S. \$b.</u> (5)
Norway	5.7	3.1	34.2	1.1	1.949
U.S.A.	5.7	6.0	1874.4	104.3	106.829
Canada	5.7	1.8	197.1	3.3	11.235
Germany	5.6	3.4	501.1	17.1	28.056
Denmark	5.6	2.5	41.0	1.1	2.296
Belgium	5.5	3.4	74.4	2.5	4.092
France	5.4	3.6	387.1	13.7	20.903
Netherlands	5.4	3.6	99.4	3.7	5.368
U.K.	5.0	5.0	247.1	12.4	12.355
Italy	4.3	2.4	194.4	4.7	8.359
Greece	3.7	5.0	25.9	1.3	0.958
Portugal	2.1	3.3	18.1	0.5	0.380
Turkey	0.6	5.7	46.5	2.6	0.279

Source: As for Table 4.2,
also I.I.S.S. (1978).

furthermore it increased from 3.5 per cent to 5.1 per cent over the period.

It was pointed out earlier (p. 117) that these calculations have been based on nominal GDP per capita. Recent work by Kravis et al. (1978)⁸⁰ has shown that real GDP per capita adjusted for differences in the purchasing power of currencies reduces the apparent gap in per capita incomes between rich and poor countries. Nevertheless, even if real GDP per capita had been used in these calculations (this was done for 1977 but not presented) the conclusions would have been broadly the same, for 1977, at least. Using the real per capita incomes given by Kravis et al. for 1974 it was found that in 1977 Turkey, Greece and the USA all contributed more than their 'fair' share to NATO defence, and Turkey's excess defence burden at 3.5 per cent was the highest within NATO. Moreover, even if allowance is made for US economic assistance 'given' to Turkey to cover part of the military burden the conclusion is unaffected. Turkey along with the other poorer members of NATO, have taken on a disproportionate burden of defence. While it is true that defence expenditure in Turkey has also had a very important domestic role, so that not all of the defence allocation should be credited to NATO, it is doubtful if this can fully account for the unequal defence burden.

When the tax rate calculation takes into account both direct and indirect taxes and benefits then the low income groups become net recipients, that is the benefits they receive are greater than the taxes they pay. In this case it has been estimated that Turkey should have all of its defence expenditure paid for by other NATO members on grounds of equity. The detailed calculations for this are given in Appendix 2.

Before leaving the topic of Turkey's share in the NATO defence burden, one further set of calculations will be considered based on equal proportional burden sharing, and this is shown in Tables 4.7 and 4.8, for 1958 and 1978 respectively. In both Tables column (1) gives the GNP of each member in US \$ billion; column (2) gives each countries' share of the total NATO income; col(3) the defence expenditure of

each country in U.S. \$; column (4) gives each country's share of the total N.A.T.O. defence expenditure; column (5) gives an estimate of what each country should spend on defence, assuming that total N.A.T.O. defence spending remained as it was for the two years, but each country contributed according to its share of N.A.T.O. income; and column (6) gives the actual defence burden for each member. The interesting data appears in column (5) since these estimates assume that members contribute in proportion to the size of their G.N.P., which is equivalent to each country contributing so that the proportion of defence expenditure per capita to income per capita is the same. First of all looking at Table 4.7 (1958) it can be seen that 7.87 per cent of N.A.T.O. income was given over to defence, and the only countries that contributed their proportion were the U.S.A., France and the U.K. All the other countries, including Turkey, should have contributed more. By 1978 the N.A.T.O. defence burden had fallen to 4.4 per cent, see Table 4.8, which left four countries paying more than their fair share - Greece, Turkey, the U.K. and the U.S.A. - with two of those countries enjoying per capita incomes well below the average for N.A.T.O.

5. Economic and Power Interests of the Military Establishment

There are two obvious major interest groups that have a stake in the level of military expenditure - the

TABLE 4.7

Required Defence Expenditure
for Equal Proportional Burden Sharing, 1958

<u>Country</u>	<u>G.N.P.</u>	<u>Share</u>	<u>Def.</u>	<u>Share</u>	<u>Equal</u>	<u>Actual</u>
	<u>U.S.</u>	<u>of</u>	<u>Exp.</u>	<u>of</u>	<u>Prop^{nl}</u>	<u>Def.</u>
	<u>%</u>	<u>NATO</u>	<u>U.S.</u>	<u>NATO</u>	<u>Def.</u>	<u>Burden</u>
		<u>%</u>	<u>\$m.</u>	<u>%</u>	<u>Exp.</u>	<u>%</u>
	(1)	(2)	(3)	(4)	<u>U.S.\$m.</u>	(6)
Belgium	10.5	1.3	408	0.6	843	3.9
Canada	33.9	4.1	1356	2.1	2660	6.0
Denmark	5.0	0.6	164	0.3	389	3.3
France	49.6	6.0	3916	6.0	3892	7.9
Germany	57.9	7.0	1968	3.0	4541	3.4
Greece	3.1	0.4	182	0.3	259	5.8
Italy	29.3	3.6	1262	1.9	2335	4.3
Netherlands	9.5	1.2	473	0.7	778	5.0
Norway	4.0	0.5	160	0.2	324	4.0
Portugal	2.1	0.3	96	0.1	195	4.5
Turkey	5.3	0.6	239	0.4	389	4.5
U.K.	64.8	7.8	5053	7.8	5053	7.8
U.S.A.	<u>455.0</u>	55.2	<u>49591</u>	76.4	<u>35807</u>	10.9
Total	824.5		64868		64868	

Sources: Column 1 U.N. Statistical Yearbook, 1969.

Column 3 derived from I.I.S.S. (1966).

Note: N.A.T.O. Defence Burden: $\frac{\text{N.A.T.O. Defence Expenditure}}{\text{N.A.T.O. Income}} = 7.87$

TABLE 4.8

Required Defence Expenditure
for Equal Proportional Burden Sharing, in
N.A.T.O., 1978

<u>Country</u>	<u>G.N.P.</u>	<u>Share</u>	<u>Def.</u>	<u>Share</u>	<u>Equal</u>	<u>Actual</u>
	<u>U.S.</u>	<u>of</u>	<u>Exp.</u>	<u>of</u>	<u>Prop^{nl}</u>	<u>Def.</u>
	<u>\$b.</u>	<u>NATO</u>	<u>U.S.</u>	<u>NATO</u>	<u>Def.</u>	<u>Burden</u>
		<u>%</u>	<u>\$b.</u>	<u>%</u>	<u>Exp.</u>	<u>%</u>
	(1)	(2)	(3)	(4)	<u>U.S.\$b.</u>	(6)
					(5)	
Belgium	89.1	2.1	2.476	1.3	3.957	3.3
Canada	215.7	5.1	3.635	1.9	9.609	2.0
Denmark	50.6	1.2	1.320	0.7	2.261	2.4
France	440.2	10.3	17.518	9.3	19.406	3.9
Germany	587.3	13.8	21.355	11.3	26.000	3.4
Greece	30.6	0.7	1.523	0.8	1.319	6.7
Italy	218.3	5.1	5.610	3.0	9.609	2.4
Luxembourg	3.2	-	0.037	-	0.141	1.1
Netherlands	116.9	2.7	4.208	2.2	5.087	3.3
Norway	39.0	0.1	1.291	0.7	1.720	3.3
Portugal	19.5	-	0.568	0.3	0.860	3.5
Turkey	51.7	1.2	2.286	1.2	2.281	5.1
U.K.	280.7	6.6	13.579	7.2	12.435	4.7
U.S.A.	2128.0	49.8	113.000	60.0	93.826	5.1
Total	4270.8		188.406		188.406	

Source: I.I.S.S. (1978) S.I.P.R.I. (1980)
G.N.P.: (World Bank Tables).

Note: N.A.T.O. Defence Burden: $\frac{\text{N.A.T.O. Defence Expenditure}}{\text{N.A.T.O. Income}} = 4.4$

military leaders, and the firms that are engaged in producing military hardware or supplying the day to day consumption needs of the armed forces.

Military leaders can be assumed to derive utility not only from the salaries they receive but also from the power and prestige that they possess, which itself is a function of the level of military manpower under their control and the size and sophistication of military hardware. This suggests the following utility function:

$$U = f(S, M, H, T)$$

where U = Utility

S = Military Salary

M = Military Manpower under their control

H = Military Hardware

T = the Technology and sophistication of military equipment

If military leaders are utility maximisers then they have a reason to see military expenditure as high as possible. A higher level of military spending permits higher salaries and/or more soldiers and/or more tanks, helicopters, aircraft or guns which all give increased levels of utility. There can be little doubt that military leaders are concerned with the power and prestige they possess. After the 1960 coup in Turkey there were some elements within the military leadership that believed there should be a more permanent involvement of the

military in the future politics of Turkey.⁸¹ Those officers who participated in and supported the 1960 coup believed that civilian government had been betraying Kemalist ideals. The bureaucratic elite found their power declining, and the same policies deprived the army of its traditional role as guardian of the peace. Significantly one of the measures taken while the military were in power was to increase the pay of the military so as to restore not only their real incomes, but also their morale. Given the obvious power of the military in post-war Turkey the thesis that the level of military expenditure is determined in part by pressure exerted by the military itself seems plausible, but it will be argued that this has not been resisted by the politicians.

The other important interest group with a stake in the level of military spending are the firms that supply the arms, vehicles, petrol, clothing and food to the armed forces. Any cutback in the size of military spending would adversely affect those firms supplying military requirements. There is a great deal of literature on the impact of military expenditure on the U.S. economy. Clayton (1962)⁸² described in detail the enormous economic impact that military expenditure has had on firms in California. Buck (1965)⁸³ stressed the strong backward linkages that military expenditure induced in the U.S. which resulted in a positive net productive effect after allowing for the absorption of resources for military purposes. Burton and Dyckman (1965),⁸⁴ Isaard and

Schooler (1963)⁸⁵ and Peterson and Tiebout (1963)⁸⁶ all present evidence to show that disarmament would have serious negative effects on the entire Californian economy. The business of producing arms and supplying the military is virtually risk free yet enormous profits are earned by firms fortunate enough to receive military contracts.⁸⁷ As most of the large military contracts in the U.S.A. go to the giant corporations, which possess considerable political muscle, there is pressure on the U.S. government to maintain or increase military spending.⁸⁸ It is also in the interests of the military elite, as was previously argued, and the politicians whose careers depend upon the military sector to push for more military spending. This clearly implies that there are several powerful groups in the U.S. with mutually consistent interests (Wright Mills, 1956)⁸⁹ who are able to make military spending acceptable.

Several writers have studied the military industrial complex in the U.S. Allison (1971)⁹¹ and Halperin (1974)⁹² stress the bureaucratic process within the state as determining the method by which military hardware is procured, whereas Melman (1974)⁹³ and Rosen (1973) emphasise the military - industrial complex. Rosen concludes:⁹⁴

"The U.S. (and the Soviet Union) have developed extensive industrial sectors orientated to military orders for their output. A by-product of this development

is the creation of a class of individuals whose interests are served by defence spending. The careers of related managers and (on the U.S. side) the profits of owners and share holders are tied to high levels of military preparation ... These industries are in critical sectors of the economy. On the U.S. side, they include the largest industrial corporations and the crucial capital goods industry... On both sides, the most powerful interests in the economy are substantially tied to continued high levels of military production."

The validity of the 'military-industrial' thesis, as an explanation of the magnitude of military spending in the U.S.A. and the U.S.S.R., seems to have been established, but it is not so clearly perceptible that the same applies in other countries. Turkey is interesting in this respect because in 1960, while the military were in power, the Armed Forces Mutual Assistance Fund (Ordu Yardimlasma Kurumu or O.Y.A.K.) was set up which was instrumental in establishing the military as private entrepreneurs. Under O.Y.A.K. rules, regular officers in the armed forces, who number about 80,000, pay 10 per cent of their salaries into the fund for eventual reimbursement. The funds have been invested throughout the economy and by the early 1970s O.Y.A.K. had become one of the country's biggest and most pervasive conglomerates, solidly integrated into the economy. By 1972 O.Y.A.K. had controlling interests in the Turkish Automotive Industry, a company that assembles

International Harvester trucks and tractors; M.A.T., a truck and tractor sales firm; the O.Y.A.K. Insurance Company; T.U.K.A.S., a food canning firm; and a \$3 million cement plant. O.Y.A.K. also held a 20 per cent interest in the \$50 million Petkim Petrochemical Plant; 8 per cent of the State-owned Turkish Petroleum; 42 per cent of O.Y.A.K.-Renault and 7 per cent of the Turkish subsidiary of the Goodyear Tyre Company.⁹⁵

From an initial investment of 8.6 T.L.million in 1960 O.Y.A.K. had grown to 502 T.L.million in 1970 and had assets of \$300 million (approximately 4000 T.L.million) in 1972.⁹⁶

During the 1960s there developed a new closer relationship between the political, the industrial and commercial capitalist class and the military. The upper echelons of the army began to take up positions within the bureaucracy, or were recruited into private or state enterprise and many were sent abroad as ambassadors.^{97,98} O.Y.A.K. was given special tax allowances. It was not required to pay any of the 25 per cent corporation tax on its earnings. It was also exempt from paying the 10 per cent tax charged for business transactions, and the payments made to and by members were not charged income or inheritance tax. Furthermore, O.Y.A.K. companies were given preference in supplying army needs and contracts were even rigged.⁹⁹

Beginning in the 1960s the Turkish economy came to

be dominated by a 'mixture of state, bank, industry, foreign and military capital.'¹⁰⁰ The military had an interest in preserving stability and the status quo, and the political and financial oligarchy saw the army as the guardian of the new regime. From the late 1960s the growing strength of D.I.S.K. and the Turkish Labour Party could only be held in check ultimately through the power of the military, and the fortunes of politicians and capitalists became linked to those of the military officers. All three elements in the power elite within Turkey have had a stake in the maintenance of economic and social stability and this has meant a commitment to continued high levels of military spending.

6. Economic Policy

The Under-Consumption Thesis

The Marxist analysis of capitalism emphasises the fundamental laws of motion of the system which if left unchecked lead to periodic economic crises and eventual breakdown. Into this analysis it is necessary to introduce the state¹⁰¹ which is assumed to intervene to stabilise the economy or expand aggregate demand.

Capitalist crises arise for two reasons. Firstly, because of the inevitable tendency for the rate of profit to decline with a rising organic composition of capital, or secondly, because the surplus cannot be realised, and is held in the form of unsold commodities,

i.e. the under-consumption thesis. The realisation problem occurs when the growth of the forces of production generates a potential output which is greater than effective demand, which itself may be limited by the attempts of capitalists, or the state, to keep wages down. Both versions of the crisis require the state to intervene (in the interests of capital) to expand state expenditure.

It was Rosa Luxemburg (1913)¹⁰² who first recognised the role of military expenditure and arms production as a purely economic weapon to aid the process of capitalist accumulation and surplus-value realisation. According to Joan Robinson (1963):¹⁰³

"The analysis which best fits Rosa Luxemburg's own argument, and the facts, is that armaments provide an outlet for the investment of surplus (over and above any contribution there may be from forced saving out of wages) which, unlike other kinds of investment, creates no further problem by increasing productive capacity (not to mention the huge new investment opportunities created by reconstruction after the capitalist nations have turned their weapons against each other."

This interpretation of the role of military expenditure is taken up by several writers.^{104,105,106,107} The argument they present is that advanced industrial capitalist societies have a problem of absorbing the surplus. The Second World War mopped up the surplus of

the late 1930s but the crises began to reappear in the late 1940s. The only way that the capitalist economies could be stabilised was through vast military spending and the space race. The 'permanent war economy' was the state's answer to the under-consumption bias in the capitalist system, and arms production had the advantage of being ideologically acceptable to the capitalist class. Arms production does not compete with private interests nor does it create productive capacity yet it generates employment and investment opportunities and therefore moderates the tendency for the rate of profit to fall.

Cypher (1974) studied the macroeconomic effects of military expenditure on the U.S. economy in the post-war period to determine to what extent such expenditures have been used as an instrument of capitalist planning in order to stabilise the U.S. economy and reverse the tendency towards secular stagnation. He argues that military expenditure has been an instrument of capitalist planning, and through the multiplier accounted for about 25 per cent of G.N.P. in any one year.¹⁰⁸

It cannot be denied that military expenditure can expand output and reduce unemployment but it is not sufficient to establish a correlation between them as evidence that the state has purposefully chosen to use military expenditure to combat under-consumption tendencies. What would be required is evidence of a 'state reaction

function' and Smith (1977) finds no evidence for a 'systematic positive reaction function' using time series data for the U.S.A. and the U.K. In the case of the U.S. it would be necessary to conclude that the Korean War, 1951-53, and the Vietnam War, 1966-69, were entered into primarily to achieve full employment, and this seems implausible.¹⁰⁹ Furthermore, there are theoretical grounds for questioning the theory of the 'permanent arms economy' as Purdy (1973)¹¹⁰ argues, since the long run development of capitalism is unlikely to be held back by a realisation problem. Not is it clear why military expenditure should be adopted to cope with unemployment rather than investment in the welfare state, since military activity is largely capital intensive and cannot be adjusted quickly, so it is unsuitable for stabilisation purposes.

The thesis that military expenditure is used as a tool of economic policy is unlikely to help in understanding military expenditure growth in Turkey. The high levels of unemployment in post-war Turkey, which reached 20 per cent towards the end of the 1970s have not been the result of problems of absorbing the economic surplus, but rather the result of repeated failure to achieve planned levels of investment, too much emphasis on capital intensive projects, the high rate of population growth, and an inability to expand export markets.

Turkey began to operate a series of five year plans

beginning in 1963 but this does not mean that the Ministry of Finance was able to 'fine tune' the economy through discretionary fiscal policy, or that military expenditure was a tool for stabilisation purposes. The Armed Forces have always been represented on the National Security Council even in peace time, and this is the committee which reviews and makes recommendations on internal and external security to the government. The military has had a direct and dominant say in the formulation of defence policy since 1960 and military expenditure has been largely determined by Turkey's foreign policy and internal security rather than any desire to stabilise the level of activity.

To confirm this view it was decided to test the under-consumption thesis using regression analysis and annual data for the period 1952-'76. The argument is that market economies are likely to experience a deficiency in aggregate demand as they become more affluent, that there is a growing surplus and the problem becomes one of absorbing the surplus. Military expenditure is one way of absorbing the surplus which counteracts the tendency towards stagnation and crisis, so the test consists of estimating whether the share of military expenditure in G.D.P. is related to the G.D.P., G.D.P. per capita or unemployment. The following result was obtained:

$$\begin{aligned}
X/\text{GDP} &= 0.141 + 0.0009 \text{ GDP} - 0.00006 \text{ GDPC} \\
&\quad (4.9) \quad (2.8) \quad (3.0) \\
&+ 0.00003 \text{ U} + 0.025 \text{ D} \\
&\quad (0.5) \quad (4.5)
\end{aligned}$$

$$R^2 = 0.883 \quad S = 0.0029 \quad \text{ME} = 0.048 \quad \text{DW} = 1.6$$

where X = Turkish military expenditure

GDP = gross domestic product

GDPC = gross domestic product per capita

U = Level of unemployment, 000's

D = dummy variable with value 1 for 1975 and 1976
and zero elsewhere.

The R^2 and the value of S/ME indicate a fairly good fit over-all, but the result shows a positive relation with G.D.P. and not with G.D.P.C., and as the latter is the best measure of affluence, it casts doubt on the under-consumption thesis. The coefficient on U is also positive, but not significant, although if we ignore the significance and concentrate on the sign of the coefficient this may be interpreted as providing further evidence against the under-consumption thesis. When military expenditure as a proportion of G.D.P. is high then, assuming ceteris paribus, there should be a higher level of economic activity and lower levels of unemployment, which would give a negative coefficient. However, in this case there is another possible interpretation, which is based on the causality running in the opposite direction. Thus high levels of unemployment may cause

the government to respond by spending more on defence which would give a positive coefficient. In another regression, not reported, it was also found that the coefficient on unemployment lagged one year was also positive, but again not significant, so it should not be taken as good evidence for the under-consumption thesis. As regression analysis can not establish causality (only correlation) then the correct interpretation must be based on other evidence, and that evidence does not support the under-consumption thesis.

Cost Effectiveness

Recent literature¹¹¹ on the budgetary and fiscal arrangements for planning and controlling defence expenditure in the U.S. and Britain indicate that the methods of allocating resources to defence have been inefficient. In Turkey military expenditures are determined within the National Security Council which is dominated by the Joint Chiefs of Staff. This administrative form of decision making can give rise to inefficiency at two levels. Firstly, there is no way that the appropriate level of total military expenditure can be determined in order to maximise a social welfare function, bearing in mind that there are overall resource constraints. Secondly, it is by no means certain that the allocation of military inputs between the various branches of the military establishment will be optimal. The power structure between the chiefs

of staff of each of the armed services may well determine the allocation of resources between them, particularly if they as individuals are 'empire builders' and take a parochial view. This procedure can easily result in the output of military services not being maximised for a given level of inputs, and can lead to an imbalance in military forces. To overcome this second problem there needs to be forward planning and co-ordination between the armed forces but this is frequently lacking.

Hartley (1974) points out that because defence activity is a public good there are no private markets to establish the price or value of the output which could then be used to determine society's evaluation of the product. As military requirements are likely to be expressed in absolute terms, the question of whether the defence budget is appropriate tends to be ignored, so there is no attempt to consider whether the level of military expenditure is worth the cost in terms of what is forgone, that is whether there is allocative efficiency.

It is also necessary to consider the "cost and defence effectiveness of alternative force arrangements and alternative weapons systems in relation to some specified objective." (Hartley, 1974).¹¹² Efficient allocation requires the military to analyse marginal costs too, but this is rarely done.¹¹³ In order to

select the most suitable equipment for the fulfilment of military tasks, systems analysis, operations research and military studies are required so as to objectify the definition of goals and objectives, to assess the risks involved in each alternative and, finally, to identify the most cost effective solution. The kind of specialised research facilities and expert knowledge that is required for military decision making is not available in Turkey. N.A.T.O. has recognised that there is a need for a comprehensive framework for defence planning over the longer term, but in practice has urged member countries to compensate in full for the effects of inflation and to increase expenditure on new equipment. Until Turkey adopts functional costing and cost effectiveness techniques there is the possibility that the military will absorb more resources than is consistent with allocative efficiency.

Growth of the Public Sector

Another issue that has received a lot of attention in the literature in recent years has been the growth of the public sector, which has been aroused by the very substantial increases that have occurred in public expenditure in a number of countries. In Britain much of the interest in the 1970s was focussed on the work of Bacon and Eltis (1976)¹¹⁴ who argued that the poor performance of the U.K. economy, particularly after 1965, was largely due to the growth of the public sector.

Turkey has also experienced a considerable growth in public expenditure, both in absolute terms and in relation to G.N.P., in the post-war period. The growth of public expenditure is summarised in Table 4.9, and shows that as a percentage of G.N.P. it increased from 17.4 per cent in 1952 to 24.5 per cent in 1976, while at constant prices it rose from 9.9 T.L. billions to 54.8 T.L. billions.

TABLE 4.9

The Growth of Public Expenditure
in Turkey, 1952-76

	<u>Total Budget</u> <u>Expenditure</u> <u>in TL billion*</u>	<u>Budget Expenditure</u> <u>as percentage</u> <u>of GNP</u>
1952	9.9	17.4
1960	13.4	18.5
1968	29.2	22.2
1976	54.8	24.5

Note: * at constant, 1970, prices.

Source: Turkey: An Economic Survey, 1977.

The first major theoretical attempt to explain the growth of state expenditure is found in the work of A. Wagner, who, writing in the second half of the nineteenth century, argued for a "law of expanding state expenditures." Wagner's Law, as it has become known, argued that, for industrialising countries with rising per capita incomes, state expenditure would tend to expand more quickly than other sectors of the economy. There are a number of developments in an industrialising society which would help to explain the growth in relative importance of the public sector. The most important can be summarised as follows:¹¹⁵

1. the increasing complexity of legal relationships and communications, which arises with the greater division of labour during industrialisation, as well as the rise in population density and urbanisation, which necessitate the expansion of the protective (security) and administrative functions of the state.
2. an expansion of cultural and welfare expenditure under the pressure of social progress which renders these activities 'superior goods' or 'luxuries.'
3. technological progress and the accompanied increase in the scale of production which make public corporations preferable to private monopolies in the interests of economic efficiency.

Wagner was arguing that security expenditure would

inevitably rise with the growth of the state, as the armed forces grew in size and their equipment became more sophisticated. Moreover as democratisation advanced, in the sense of wider political participation, internal conflict between different strata of society would necessitate expansion of the security forces. State expenditure on cultural and welfare facilities would also rise in line with economic development as the state took on responsibility for education, health and welfare.

The reasons advanced by Wagner in support of his law have been criticised on several grounds. One of the most important criticisms is that his explanation is based on an acceptance of the 'organic' theory of the state, so that his explanation depends upon the validity of that theory. As Peacock and Wiseman put it:

"It cannot be accepted, then, that Wagner succeeded in demonstrating that a secular increase in community output must inevitably produce a more than proportionate secular growth in the importance of government services. Ultimately, the law of increasing government expenditure is a corollary of the political philosophy and interpretation of history that Wagner accepted. His 'proof' of the existence of such a law, therefore, depends upon the validity of the organic theory of the state upon which he relies."¹¹⁶ Even if we observe that the empirical work done on the Law confirms the general proposition of expanding state activity it does

not follow that there will be a unilinear relationship between industrialisation and state expenditure irrespective of the form of the state. Furthermore, it is necessary to explain not only the trend of public expenditure as a proportion of national output but also its fluctuations over time, and it is unlikely that industrialisation can do this.¹¹⁷

It was decided to test whether Wagner's Law can help to explain changes in the military burden. Once again using annual data for the period 1952 to 1976 regression analysis has been used to find out if a larger share of state expenditure in G.D.P. was explained by increasing industrialisation. The following result was obtained:

$$\text{SE/GDP} = 7.582 + 0.00339 \text{ GDPC}$$

(2.4) (4.1)

$$R^2 = 0.432 \quad S = 3.376 \quad \text{ME} = 20.1 \quad \text{DW} = 0.7$$

where SE = state expenditure

GDP = gross domestic product

GDPC = gross domestic product per capita,
constant prices.

*The result confirms the validity of the general proposition of the rising relative importance of the public sector, with GDPC as the proxy for industrialisation, but the Durbin Watson statistic indicates some positive serial correlation. The R^2 is quite low and the S/ME value high so there must be other factors that have

influenced the growth of state expenditure. As Wagner gave the growth of security expenditure as one of the reasons for the more rapid growth of the public sector we would also expect the defence burden to be positively related to G.D.P.C. This was also tested with the following result:

$$X/GDP = 0.068 - 0.00001 GLPC + 0.03 D$$

(16.3) (5.0) (8.7)

$$R^2 = 0.78 \quad S = 0.003 \quad ME = 0.049 \quad DW = 1.2$$

where D = dummy variable.

This result shows that there is a negative relation between the military burden and G.D.P.C. (industrialisation), and that the growth of security expenditure does not contribute to the relative growth of state expenditure.

There have been a number of studies carried out to test whether defence expenditure is part of the relative growth of the public sector. Martin and Lewis (1956)¹¹⁸ carried out a cross-section analysis of 16 countries, 10 of which were L.D.C.'s, and concluded that higher defence burdens were positively related to affluence although much more important for rich than poor countries, but the sample was rather small to give unambiguous results. Another cross-section regression analysis was carried out by Lotz (1970) who investigated defence expenditure along with other aspects of public expenditure for 37 L.D.C.'s using data for the 1960s. Lotz found

that military spending was not closely related to the level of economic development. He obtained the following result:¹¹⁹

$$\begin{aligned} D/Y = & 0.262 - 0.006 Y/P + 0.02 MX \\ & \qquad \qquad (3.5) \qquad \qquad (1.8) \\ & + 0.048 U + 0.081 B/Y \\ & \qquad (2.6) \qquad (2.2) \end{aligned}$$

$$R^2 = 0.366$$

where D = defence expenditure

Y = G.N.P.

P = Population

MX = mineral and oil exports (proxy for natural resource endowment)

U = proportion of population urbanised

B = Budget expenditure

The relation between D/Y and B/Y is positive which supports Wagner's Law. There is also a positive coefficient on U, which can be taken as a proxy for economic development, giving further support for Wagner's Law. The coefficient on MX is positive as would be expected since mineral and oil exports provide economic resources which permit defence spending and may also be the reason for it, in order to protect valuable resources from external attack or internal secession. The coefficient on Y/P is, however, negative, while this should have been positive according to Wagner's Law.

The use of cross-section studies to test Wagner's Law suffers, however, from a lack of historical dimension. Implicit in cross-section studies is the assumption that the poor countries, as they develop, will imitate the richer countries with respect to their pattern of public expenditure, irrespective of different economic, social, political and strategic motivations. Wagner was concerned with the tendencies towards the relative growth of the public sector within a country, which can only be adequately tested with time series data. Therefore it was decided to test a similar relationship using time series data for Turkey over the period 1952-76. The following result was obtained:

$$\begin{aligned}
 X/GDP = & 0.078 - 0.00001 \text{ GDPC} - 0.0013 \text{ IND} \\
 & \qquad \qquad (1.2) \qquad \qquad (2.1) \\
 & + 0.0006 \text{ SE/GDP} + 0.028 \text{ D} \\
 & \qquad \qquad (2.5) \qquad \qquad (7.2)
 \end{aligned}$$

$$R^2 = 0.844 \quad S = 0.003 \quad ME = 0.049 \quad DW = 1.7$$

where IND = share of industry in G.N.P.

On the one hand the positive relation between X/GDP and SE/GDP is precisely what one would expect from Wagner's Law, but once again the coefficient on G.D.P.C. is negative, as too is the coefficient on industrialisation. As both of the latter two variables are proxies for economic development then one essential element in Wagner's Law would seem to be in doubt. Lotz also found

a negative coefficient on G.D.P.C. (Y/P) which he tried to explain in terms of certain indivisibilities in military supply. Small or poor countries with low national incomes would have to spend a higher proportion of their income on security, and as their per capita incomes grew the defence burden would decline. This hypothesis does not hold for Turkey where the size of the military has always been very large and certainly above a basic technical minimum. It is more likely that the military and political leaders in Turkey, with U.S. assistance no doubt, have determined the size of the military with respect to an absolute level of force capability, which has meant a declining defence burden (apart from after 1974) with a rising per capita income.

Although most of the empirical studies made on Wagner's Law seem to support it, they have not established what variables determine the growth of state expenditure nor have they been able to identify the processes through which it occurs. It is likely that there is no single factor which explains the relative growth of the public sector, or its components, and the factors in any case are likely to be different for different countries or for the same country at different stages of development. Peacock and Wiseman's analysis of the growth of public expenditure in the U.K., which emphasises a displacement effect, due to, for example, external threat that shifts public revenues and expenditures to higher levels, can only be part of the explanation, and it is unlikely that

it has any relevance for Turkey in the post-war period.

Summary

This chapter has considered several possible explanations of the growth of military expenditure in Turkey in the post-war period. There is no evidence to support the thesis that military expenditure has been used as a tool of economic policy to control the level of unemployment or to stabilise the main macroeconomic variables. What has emerged is that the military in Turkey must be understood in terms of its position within the state bureaucracy where it performs a strategic role, in maintaining the existing power structure. The military is part of the political 'superstructure' in Turkey and as such it is not neutral, but is intent on supporting the hegemony of Western values. There are four elements to the manoeuvres of the military.

The military are regarded as the guarantors of national security, defending the nation against the threat of rivals. There is some evidence that an arms race has occurred between Turkey and her main opponents - the U.S.S.R., the Warsaw Pact countries and Greece. Closely related to the previous explanation is the role given to Turkey by the U.S. and other N.A.T.O. members in defending Western interests against the threat of communism, which at the same time helps to keep much of the world open to free (capitalist) trade. Within Turkey the military have had the prime function of preserving

the economic and social status quo, which has meant conservation and opposition to radical solutions as expressed by the labour movement. The military has also fulfilled an ideological role in exposing all conscripts to Western values and by creating a sense of pride in the nation state. Finally, there is evidence that during the 1960s and 1970s the military establishment became fully integrated into the Turkish economy with investments spread throughout the manufacturing sector, which gave the generals further reasons for maintaining the existing economic and social system.

CHAPTER 5

ARMS PRODUCTION

Introduction

As an old imperial power Turkey has long possessed arms production facilities but by the twentieth century she had ceased to be a major producer. At the end of the Second World War Turkey was able to produce light arms and ammunition but little else in the way of weapons. There were plans to build up an arms industry in the late 1940s, and it was intended that an aircraft industry be created, but the flow of U.S. military aid made it all unnecessary. Turkish plans to build up domestic arms production re-emerged in the 1960s, largely as a result of the cutback in the U.S. military assistance programme and the increasing burden of arms imports on the balance of payments, but it was not until the U.S. arms embargo was imposed in 1975 that priority was given to establishing a domestic arms industry.

In 1976 Turkey was one of 46 developing countries producing arms. A summary of Turkey's defence production is given below:¹

<u>Aircraft</u>	<u>Form of Production</u>
1. Fighters, jet trainers, engines	Lp
2. Light aircraft	Lp
3. Helicopters	None

<u>Ships</u>	<u>Form of Production</u>
1. Large warships	L
2. Medium warships (up to 300 tons)	L
3. Small warships, patrol boats (below 100 tons)	I
4. Submarines	L
 <u>Missiles</u>	
1. Missiles and rockets	L
 <u>Armoured Vehicles</u>	
1. Tanks, armoured personnel carriers	Lp
 <u>Small Arms</u>	
1. Small arms and ammunition	L
 <u>Electronics and avionics</u>	 None

Key: L = licensed production and technical assistance
I = indigenously designed and produced
p = planned

The production of warships under license began during the 1960s and by 1968 Turkey was committed to developing new and modified domestically designed fighting ships (destroyers, frigates and escorts) with a displacement over 1000 tons.² The first major warships designed and built in Turkey were started in 1968 at the Golcuk Naval Dockyard and were launched in June 1971. As with the Turkish motor industry the engines for these warships

had to be imported.³ By 1973 Turkey was also planning to produce indigenously designed missile boats, again powered by imported diesel engines, and in 1976 production began on Nasty Class torpedo boats at the Taskizak Yard. During 1974 Turkey began to assemble TIP-209 submarines powered by diesel and under license from Western Germany. In the same year two other agreements were signed with Western Germany, one to produce Jaguar III missile boats and the other to build missile armed patrol boats. The prototype of this latter ship was not delivered until 1977, but then after trials, production of the remainder continued in Turkey. Missile production had begun as early as 1966 since when the Coora 2000 rocket had been assembled in Turkey, with parts imported from Western Germany, and had even been exported on a small scale to the Far East. A 1975 report by the Turkish General Staff⁴ claimed that Turkey was 90 per cent self sufficient in the production of light arms, with howitzers, rocket launchers, machine guns, ammunition and mortars also being made. The same report also stated that Turkey was 30 per cent self sufficient in heavier weapons and 15 per cent in sophisticated equipment.

A New Turkish Defence Policy

The mid 1970s were a crisis period for Turkey. There were a series of weak coalition governments which were unable to prevent a polarisation of domestic politics with the growing strength of the labour movement on the

left and the emergence of the conservative, Islamic nationalist National Salvation Party on the right. Inflation, unemployment and a shortage of foreign exchange began to impose constraints on economic growth. The invasion of Cyprus in 1974 brought Greece and Turkey to the brink of war over Aegean rights, and then the U.S. Congress imposed an arms embargo on Ankara under pressure from the Greek lobby. It was the embargo more than anything else that insulted the Turks and led the country to re-examine its defence policy and re-orientate its foreign policy. On the latter Ecevit, the leader of the R.P.P. has stated:⁵

"We should make our national security primarily dependent on good relations and on establishing an atmosphere of mutual confidence with all our neighbours, with all the countries of the region."

There were moves to strengthen ties with Iran which led to a grant of \$1.2 million in credit to expand the Turkish transportation system.⁶ Turkey also made moves to participate more actively in the Organisation for Regional Co-operation and Development. At the political level Turkey began to give support for the Arab position in the Middle East and established links with the Palestinian Liberation Organisation. The new orientation in foreign policy, which has been called the Turkish 'Ostpolitik',⁷ was also designed to strengthen links with the Soviet Union and its Balkan allies, although this was not regarded as being incompatible with

continued membership of N.A.T.O. There followed a series of political exchanges between Moscow and Ankara which strengthened relations between the two countries and culminated in the Friendship Agreement of June 1978. The improvement in Soviet-Turkish relations was accompanied by increased trade and aid flows, joint investment projects and in June 1979 an agreement was reached on the construction of a Soviet nuclear power plant in Turkey. At the same time as Turkish-Soviet relations improved so did relations with Bulgaria and Rumania, which also led to agreements on political and economic co-operation.⁸

The domestic counterpart to the foreign policy re-orientation was the new defence policy. On this Ecevit said:

"Another factor that we have to keep in mind in evolving a new security concept, and based on that, a new defence policy is that our defence system and defence structure should not be a burden, but rather be a spur to our economy. We should therefore try to develop such industries for our defence as would be compatible with the means of our economy and which would increase its productivity."

From the moment the arms embargo was introduced Turkey set in motion arrangements to produce a plan which would make the domestic armaments industry self sufficient and be able to compete in export markets.⁹ By August 1975 an armaments plan had been prepared by the Ministry

of Defence and the State Planning Organisation, which would lead to an expansion of arms production through partnership with foreign companies. The strategy for defence production contained a list of projects which would be given priority and would be produced domestically in the near future: (a) manufacture tanks, (b) refit existing tanks with modern equipment, (c) produce armoured personnel carriers and other vehicles for the armed forces, (d) produce electronics equipment, (e) manufacture optical implements and equipment, (f) produce aircraft and helicopters, (g) manufacture rifles, machine guns, anti-aircraft and anti-tank weapons, (h) ammunition, (i) rockets and guided missiles, (j) warships, submarines and support ships.¹⁰ There followed a great deal of activity and negotiations between Turkey and other countries and international corporations on the question of foreign investment and licenses to produce arms but not a great deal came from it. Three years after the announcement of the Turkish defence plan a U.S. delegation to Turkey was given an almost identical list of military projects that were to be produced in the 'near future', indicating that little progress had been made.¹¹ The achievements of the new defence concept were listed in the Turkish journal *Gunaydin* in September 1977, where it was pointed out that Turkey was then producing artillery guns, light infantry arms, Cobra anti-tank missiles, M-3 and G-5 heavy machine guns, 75mm and 105mm mortars, TIP-209

submarines and FPB-57-type missile boats.¹² Yet all of these weapons had been planned or were in production before the U.S. arms embargo, so that the most that can be claimed for the new defence strategy was that the level of production on existing weapons had increased.

Nevertheless, beginning in 1975 there was a big Turkish effort to develop the armaments industry with foreign assistance. In June 1975 an agreement was signed with Iran to establish a joint defence industry,¹³ and in November of the same year discussions took place between Pakistan and Turkey on the opportunities for joint military production. Neither of these approaches led to any significant developments in the field of arms production, and the fall of the Shah in 1979 brought an end to the Iranian agreement. More successful was the Turkish-Libyan agreement of February 1978, which, according to press reports, included the establishment of a jointly financed ammunition factory in Turkey. There was also agreement reached on Turkey supplying Libya with submarines, heavy machine guns, artillery pieces and shells,¹⁴ and training Libyan cadets, N.C.C.s and airmen.¹⁵

From a N.A.T.O. viewpoint the most threatening move by Turkey was to enter into discussion with the U.S.S.R. on the possibility of military co-operation. During 1976 alone there were two visits to the U.S.S.R. by Turkish military leaders which fully indicated the willingness of Moscow to supply arms and military

technology to Turkey. After two years of discussion a Soviet military delegation arrived in Ankara in April 1978 and it was widely reported in the Turkish press that the U.S.S.R. was willing to help Turkey produce arms, including spare parts for U.S. manufactured aircraft and tanks.¹⁶ In June 1978 Gunaydin, the Istanbul journal, gave details, which were unconfirmed, that Soviet arms would be made available to Turkey through a secret Turkish-Libyan agreement.¹⁷ There is no evidence to show that Soviet-Turkish military discussions have resulted in joint arms production, but it was largely the threat of this possibility that led the U.S. to end the arms embargo in August 1978.

There were also Turkish moves to encourage her N.A.T.O. partners to help develop arms production in Turkey after the imposition of the arms embargo, yet progress was very slow. In 1975 there were discussions between Ankara and the British Aircraft Corporation and Hawker Siddeley, about the possibility of assembling the Jaguar and the Hawker Harrier in Turkey but nothing came of it. The American companies Northrop and Lockheed were involved in similar proposals which also failed to materialise.¹⁸ Two years later T.U.S.A.S., the Turkish aircraft industry, announced that a contract with A.E.R. Macchi would be signed in October, but the Turkish armed forces boycotted the ceremony. This prompted the Financial Times to draw the conclusion that in the context of Turkey's economic difficulties it was not

feasible to contemplate setting up a 'heavy industry' like aircraft production.¹⁹

During 1978 talks took place between Turkey and Western Germany on what Turkish arms might be imported by the Germans, and what scope there was for joint production.²⁰ It was also announced that Turkey had a contract with the West German firm Air-Metall for the construction of the AMC-111 light transport to be redesignated KC-111, and built at Kayserai.²² Under the Turkish expanded defence production programme it was planned to set up an aerospace industry which it was hoped would be capable of replacing the F-4s, F-5s and F-104s. It was for this reason that fresh talks were opened up with the U.S. firm Northrop in November 1978, to secure permission and assistance for the production of F-5E fighters in Turkey. These discussions on the possibility of joint production made little progress because of the sensitive nature of the issue within the U.S. Congress where it was felt that the U.S. would lose some of its leverage over Turkey.²³

In October 1978 it was announced that a military electronics plant had been completed in Ankara which was financed by the Ground Forces Reinforcement Fund. The new plant was expected to provide jobs for five hundred workers who would produce three thousand military radios annually, at a foreign exchange saving of 200 million lira.²⁴

S.I.P.R.I.²⁵ gives details of an agreement reached in 1979 between the U.S.A. and Turkey to produce 100 Model 500 MD (Hughes Defender) helicopters, under license at a factory to be built in Anatolia, probably near an existing aircraft maintenance plant at Kayzeni, by the Turkish company Profilo. The agreement specified that the new plant would start licensed production within one year of the contract, and there was a planned indigenisation of 30 per cent in 1980 to increase to 80 per cent by 1983. The remainder of the components would be obtained from Hughes or Breda Nardi in Italy which was already manufacturing the type under license. The planned production rate was 25-30 helicopters per year initially, which was expected to rise to 45-50 by 1982 or 1983.

It was not until March 1980 that a general defence production agreement between Turkey and the U.S.A. was signed. The second annex within the agreement dealt with the issue of joint defence production and promised U.S. technology to help Turkey produce and export military equipment and materials.²⁶ This agreement did not lead to immediate action and by the time the military took power in Turkey in September 1980 no further progress had been made.

In summary it must be concluded that the planned establishment of a Turkish arms industry, in the context of the National Security Concept that emerged after 1975, was on the whole a failure. Although Turkey was able to

increase the rate of output of arms already in production in 1975, little progress was made in producing those weapons given priority in the 1975 armament plan. The new defence policy of 1975 was partly a nationalistic response to the U.S. arms embargo and most of the military agreements that Turkey forged outside N.A.T.O. had little impact. It was only in the Turkish-Soviet exchanges that there was any real possibility of establishing joint arms production in Turkey, and the fact that Turkey remained on the brink in this context may indicate that Ankara was using the U.S.S.R. to exert pressure on the U.S.A. to lift the arms embargo. From an economic point of view the establishment of new weapons industries would have had quite serious effects, which may not have been recognised by successive Turkish governments. During the period 1975-80 the Turkish economy was sliding rapidly into its worst crisis since the Second World War, and the setting up of a large arms industry would have placed an intolerable burden on very scarce domestic resources and seriously retarded the development process even further. The reasons for this are worth considering since the creation of new defence industries remains a long run objective of Turkey, yet the economic implications are rarely examined.

Creating Defence Industries

It has been shown that Turkey already produces a range of arms and military hardware - guns, rifles,

artillery, missiles, ammunition, warships, submarines, patrol boats and landing craft - and plans to extend the range of production even further. The motivation for this is quite clear. Turkey has been in dispute with several countries since 1945 - the U.S.S.R., Bulgaria, Rumania, Greece, Cyprus - and has required military equipment as well as a large army to achieve a satisfactory solution to national security. The military have also been vital in preserving a pro-Western direction in internal politics, through direct intervention on three occasions since 1950. Up until 1974 most of Turkey's arms were supplied by the U.S.A., but the almost total dependence of Turkey on the U.S. for military equipment was shown to leave her in an extremely vulnerable position after the arms embargo in 1975. There were moves to break this total dependence already stirring before the actual arms embargo, but it was the embargo itself which finally convinced the Turks that they must become militarily independent. There was another factor operating too, related to the development strategy adopted after 1963, which emphasised the importance of industrialisation through import substitution. Achieving self sufficiency in arms production could be seen as an extension of the import substitution policy.

The ultimate objective of the new Turkish defence policy was to achieve self sufficiency in arms production in order to assert national independence. There are several countries that have expressed similar goals

(India, Israel, Iran, Argentina) and they all have required massive investment in creating plant to produce arms, but even with unlimited resources pushed into defence production it is impossible to achieve self sufficiency in arms in the short-run. In the case of Turkey resources have been very scarce and that is why the armaments plan of 1975 laid great stress on joint production projects with developed countries, although it was always unlikely that any of the N.A.T.O. countries would be willing to totally underwrite such development. It is more likely that it will take Turkey many years to reach the final or highest stage of arms and weapons production, and she may never do so. To understand the difficulties of achieving arms and weapons self sufficiency it will be useful to summarise the normal pattern of development of arms industries in the L.D.C.s. The build-up of domestic arms production capacities can be considered in terms of seven stages:

1. arms are imported but are serviced and maintained domestically.
2. a license to produce arms is acquired and production facilities are built requiring huge technical and personnel assistance from the supplier.
3. production starts and to begin with involves local assembly of imported sub-assemblies.
4. the sub-assemblies are assembled locally from imported components, and sometimes re-exported to the licensor.

5. components are manufactured locally from imported raw materials.
6. local production of raw materials.
7. complete indigenous production including design, raw materials and manufacture.

Even those L.D.C.s which have been pursuing military self sufficiency for many years have not reached stage 7. India, for example, began to give priority to its arms industry after the 1962 War with China, but nearly twenty years later most of its weapons are overseas models made under license. In the sphere of military aircraft it is true that India now designs its own fighter and ground support aircraft, but still as much as one third of the components are imported.²⁷ The implication is clear, it will take many years for Turkey to reach the final stage, and although this might be desirable in so far as it enhances national security and national pride it must be considered what are the likely economic consequences of such a course of action.

The Economic Consequences of Developing the Arms Industry

Arms production can be regarded as a branch of manufacturing industry, and a country that decides to produce military equipment which was previously imported can be said to be engaged in import substituting industrialisation. There are many LDCs that have pursued a policy of import substituting industrialisation, including Turkey, and several others that have built up arms production, consequently the

problems that this policy creates have been fairly extensively studied. Inward looking policies for development emphasise the learning effects of domestic manufacturing rather than importing, "a kind of learning by doing without."²⁸ There is a stress on the need for the right kind of technology that will utilise available domestic resources. By rejecting 'outward looking' strategies for development, import substituting industrialisation stresses an independent form of development.

Kennedy (1975)²⁹ has emphasised the positive impact of military procurement on the domestic economy. "Large numbers of men need to be fed and clothed, sheltered, trained and supervised. The administrative systems required just to control their location and their movement will require all kinds of inputs from the economy." Moreover, arms production is less likely to be terminated than other industrial projects because it has a "ready and assured monopsonistic market", is "automatically protected from competition" and "is not subject to normal competitive commercial criteria." "Thus long production runs are assured" and where arms are "produced under license the country can also combine the benefits of modern design and performance standards and the advantages of establishing domestic manufacturing activities." Although an arms industry diverts labour, it also creates a need for a large scale training programme and other forms of infrastructure. "This is probably the most

important dimension in domestic arms production ...
Because the government gives priority to arms production it also has to face up to the shortages in human resources. To meet its military ambitions it has to tackle some of the social barriers to development."

From an economic point of view the establishment of an arms industry will have the effect of absorbing scarce resources of capital, specialist labour, industrial raw materials and foreign exchange, which will not, therefore, be available for other projects which may be deemed socially useful. Each of the five year development plans in Turkey set ambitious targets for domestic savings, thus for example it was envisaged that savings would grow by 12.7 per cent per annum during the Third Plan, much higher than the planned rate of growth for income. In spite of the targets, domestic savings have not been adequate to meet the financing requirements of existing investment,³⁰ let alone investment in arms production. There has been a great deal of open and disguised unemployment in Turkey during the 1970s yet there has been a shortage of labour with managerial, technical and professional skills of the kind that would be required for the production of military weapons. It is certain that Turkey would have to train an adequate number of Turks to operate and maintain the specialised equipment that would be required for arms production. In the setting up of the arms industry and in the early stages of arms production many foreign personnel would be

required (until indigenous skilled labour was available) which would generate foreign exchange costs of the policy. In addition to the employment of foreign skilled manpower the plant and equipment required to produce arms would need to be imported which would also put pressure on scarce foreign resources. During the economic crisis that hit Turkey after 1974 nearly the whole of her export earnings were required to finance the oil bill and to service the external debt, so that foreign exchange was very scarce and would have been even more so if the arms industry had been established as planned.

In the case of Turkey the establishment of an arms industry would have diverted scarce resources away from other development demands, but that in itself is not sufficient reason to argue against it. Whether an arms industry can be justified on economic grounds depends upon the wider contribution it makes to the industrialisation and development programme. From the consumption side, arms production must be seen as wasteful since weapons provide no positive utility apart, perhaps, from the dubious one of national security,³¹ and must, therefore, be seen as inferior to the production of houses, education or other welfare services. On the supply side the decision to produce arms, including the most sophisticated weaponry, will have implications for other sectors of the Turkish economy, and will influence the pattern of industrialisation. It is important to consider the likely effects of industrialisation through arms production for

the rate and direction of development.

The Arms Industry as a Leading Sector

Domestic arms production in Turkey was seen as a way of enhancing national security and reducing the country's susceptibility to any future arms embargo. There were economic reasons too why indigenous weapons production was thought to be desirable. During the 1960s and particularly after the U.S. arms embargo arms purchases began to make a bigger drain on the country's foreign exchange. The production of arms in addition to reducing the foreign exchange outflow would also set up certain linkages with the domestic economy and speed up the import substituting industrialisation.

It has been pointed out that complete self sufficiency in arms production means that L.D.C.s have to go through up to seven stages and this could only be achieved over a long period, most likely decades, under peace time conditions. Even the production of small arms and ammunition requires inputs of special metals and machine shop skills³² but when the list is extended to ships and aircraft then the level of skills required are considerably more advanced, the power sources become vital and 'metal fabrication' and 'instrumentation' much more critical. If the production of arms is to generate backward linkages in the domestic economy then the manufacturing base must be capable of supplying the

necessary inputs, otherwise the components and raw materials will be imported and the arms industry will merely assemble the products.

Not all branches of manufacturing industry are relevant to the production of arms, but lacking detailed input-output data on the Turkish economy it is necessary to use an indirect method to approximate the relationship between arms production and manufacturing. There are figures available on the pattern of industrial employment on defence production in the U.K. which point to the following industries as being the most important:³³

1. Explosives and fireworks
2. Iron and steel
3. Steel tubes
4. Light metals
5. Metal working machine tools
6. Engineers small tools and gauges
7. Industrial engines
8. Other machinery
9. Ordnance and small arms
10. Other mechanical engineering
11. Scientific, surgical and photographic instruments
12. Electrical machinery
13. Insulated wires and cables
14. Telegraph and telephone apparatus
15. Radio and other electronic apparatus.
16. Other electrical goods

17. Ship-building and ship-repairing
18. Metal industries
19. Rubber

Within the International Standard Industrial Classification (I.S.I.C.) there are seven three-digit or major group categories of manufacturing that encompass the above list as follows:

1. Iron and steel	(29 sub-categories)
2. Non-ferrous metals	(33 " ")
3. Metal products	(15 " ")
4. Machinery	(64 " ")
5. Electrical machinery	(32 " ")
6. Ship building and repairing	(4 " ")
7. Motor vehicles	(10 " ")

Kennedy (1975)³⁴ refers to this group of industries as the potential defence capacity (P.D.C.) of the country, and measures the share of P.D.C. in total manufacturing capacity. This is done for Turkey in terms of the absorption of the P.D.C. of employment, gross output and value added, and can be seen in Table 5.1. The data refer to 1977 which was during the period of the U.S. arms embargo when Turkey was planning to build-up domestic arms production. Whether one takes employment, gross output or value added the proportion of manufacturing capacity in the P.D.C. group is considerable, and certainly higher than it was for countries like India, Israel and Brazil when they were building up their arms

TABLE 5.1

The Share of the P.D.C. in
Total Manufacturing in terms of
Employment, Gross Output, and Value Added, 1977

<u>I.S.I.C.</u>	<u>Employment</u> <u>(000's)</u>	<u>Gross Output</u> <u>TL billion*</u>	<u>Value Added</u> <u>TL billion</u>
Iron and steel	55.6	37.29	16.42
Non-ferrous metals	19.8	9.74	3.71
Metal products	30.7	12.67	4.96
Machinery	40.5	17.17	6.59
Electrical machinery	28.1	16.02	6.26
Ship building and repairing	7.4	1.69	1.09
Motor vehicles	32.6	24.06	8.38
Total P.D.C.	214.7	118.64	47.41
Total Manufacturing	755.2	413.63	153.79
Total P.D.C. as a percentage of Total Manufacturing.	28.4	28.7	30.8

Note: * in producers values.

Source: Yearbook of Industrial Statistics,
Vol. 1, 1978 Edition, U.N., New
York, 1980.

industries in the 1960s. It would seem therefore that Turkey with a large share of P.D.C. in total manufacturing would have no difficulty in diversifying into arms production (Kennedy, 1975).

This conclusion is somewhat misleading since the three-digit classification gives wide industrial groupings which disguises the real potential for defence production. If the P.D.C. group of industries are classified at the six-digit level then the seven major groups become 187 sub-groups.³⁵ In the three-digit manufacturing group Machinery (I.S.I.C: 382) alone, there are 64 six-digit sub-categories, and 33 out of these 64 sub-categories are not produced in Turkey at all, including steam turbines (I.S.I.C: 382101), internal combustion engines (382108), gas turbines (382113), hydraulic turbines (382116), forging, stamping and die casting machines (382307), grinding and sharpening machines (382310), metal-forming machine tools (382331), rolling mills for rolling metals (382337), electro-mechanical hand tools (382343). All of these six-digit sub-categories might be required for defence production yet are not produced domestically in Turkey, and even those sub-categories that are produced in Turkey are heavily dependent on imported parts and components. To take another example, the three-digit group Motor Vehicles (I.S.I.C: 384) contains 10 sub-categories of which only 4 are found in Turkey - passenger cars (I.S.I.C: 384307), buses and motor coaches (384312), trucks (384315), and trailers and semi-trailers (384322), yet all of these products are assembled mainly from

imported parts. Significantly of the other 6 sub-categories not produced in Turkey 2 of them are diesel and internal combustion engines for motor vehicles, which would also be important for arms production.

This indicates that the P.D.C. group of industries is nowhere near self sufficient, but is heavily dependent on imports for its survival. In 1977 47 per cent of all Turkish imports (\$2722 million out of \$5694 million) were inputs and components for the P.D.C. group of industries, while it only accounted for 3.3 per cent of all exports.³⁶ Furthermore, in 1977 over 95 per cent of all imports were for construction materials, machinery and equipment and raw materials. In the short-run it is unlikely that the Turkish economy would benefit to any great extent from indigenous defence production. Many inputs would not be available domestically, either because they were too technically sophisticated or in short supply, so that imports would need to rise, with adverse effects on the foreign exchange position. Rather than creating new jobs and developing the skill level of domestic labour many foreign personnel might need to be brought in, and even if local labour were given training, it would be at great cost and the skills acquired might not be relevant to civilian use.

One of the arguments for import substituting industrialisation is that the new industries created (i.e. arms) may set up a stimulus for the production

of inputs by other industries, which in some cases may make the supplying industries viable and able to produce at above the minimum economic size.³⁷ The strength of the stimulus to the supplying industry(ies) will partly depend upon the level of input demand in relation to the minimum economic size. If the inputs are a very small part of the supplying industry's eventual output then the setting up of an arms industry may not of itself lead to the establishment of the backwardly linked industry, although, without detailed information on input requirements and minimum economic size, it is difficult to make firm conclusions. The evidence available for the U.K. would indicate that the production of arms accounts for less than 10 per cent of employment in all but 2 of the supplying industries within manufacturing, as is shown in Table 5.2.

Direct parallels between Great Britain and Turkey are not possible since for one thing the manufacturing sector is both absolutely and relatively much larger in the former country than in the latter, so that for most industries listed in Table 5.2 the defence industry is of marginal importance. In Turkey the demand for inputs by a new defence industry may be crucial in establishing the viability of some supplying industries, but it would be wrong to assume that the backward linkages would always be strong enough, for two main reasons. Firstly, the absolute level of production in defence industries would almost certainly be much lower in Turkey than for

TABLE 5.2

Employment on Defence Contracts
as a percentage of Total Employment
for Great Britain, 1961

<u>INDUSTRY</u>	<u>PERCENTAGE</u>
Iron and Steel	4.2
Steel Tubes	4.3
Light Metals	7.1
Machine Tools	3.5
Small Tools and Gauges	3.8
Industrial Engines	6.8
Other Machinery	1.5
Other Mechanical Engineering	4.2
Scientific, Surgical and Photographic Instruments	7.7
Electrical Machinery	3.4
Insulated Wire Cables	3.8
Telegraph and Telephone Apparatus	7.1
Radio and Other Electronic Equipment	16.7
Other Electrical Goods	5.0
Shipbuilding and Ship-repairing	6.1
Marine Engineering	12.6
Motor Vehicles Manufacturing	1.9
Metal Industries	2.2
Rubber	1.8

Source: The Economic Effects of Disarmament,
The Economist Intelligence Unit,
1963. Derived from Table 4.

example Great Britain. Secondly, many of the branches of manufacturing industry supplying the defence sector require a high level of technological sophistication and ^{require} some large scale capital intensive production, so that the minimum economic size may be relatively large.

This leads on to another problem that must be considered before an arms industry can be justified on economic grounds. Most of the arms producers in the less developed world have a limited home market which may not be sufficient to generate full capacity production. In the case of Turkey the military establishment standing at 485,000 men in 1977 was the second largest in N.A.T.O., yet even though it is the government that determines the military budget, the levels of G.N.P. and G.N.P. per capita impose a constraint on defence spending. Turkey's G.N.P. standing at \$46,509 million (and G.N.P. per capita at \$1110) was much lower (the lowest) than for nearly all other N.A.T.O. countries, and certainly would not sustain a domestic arms industry without considerable exports. Exports of arms, however, can only be achieved in world markets if the domestic industry is efficient, its product of good quality and its prices competitive. For a country like Turkey which has a highly dependent manufacturing sector and virtually no research and development capacity it would take many years for it to achieve any degree of competitiveness in the more sophisticated arms products. Changes in the technology of aerodynamics, engines, avionics and

materials has meant that military aircraft in particular have become increasingly complex and costly to develop. This explains why even the major N.A.T.O. producers of arms have tended to collaborate on new military aircraft projects in order to share development costs and extend production runs.

It is unlikely that Turkey would be able to compete with established arms producers who spend more on research and development and are, therefore, able to continuously improve and modify existing weapons. Not surprisingly there has been an enormous increase in the cost of weapons and related equipment.³⁸ To develop new equipment with superior performance characteristics means increased costs, but for military equipment the increase in costs has exceeded the improved performance by a wide margin, as is indicated in Table 5.3. In an effort to improve performance above that of rival producers and to reduce the possibility of early obsolescence new military hardware must incorporate technology which is not yet available. Developing new technology is very costly, particularly when there is a time period within which to complete production, since the shorter the time period the greater the total costs.³⁹

Table 5.4 shows that the costs of developing a fighter aircraft have increased almost twentyfold between 1946 and 1972. Yet even the most sophisticated weapons rapidly become obsolete which forces the producers to modify and improve on a continuous basis. While the

TABLE 5.3

Comparative Increase for the 1950s
to the 1960s in the Cost and Technical Performance
of Military Aircraft

<u>COST</u>		<u>PERFORMANCE</u>				
R & D	Unit	Payload	Range or Endurance	Speed	Avionics Function	Delivery or Navigation Accuracy
5.2	4.2	2.3	1.9	1.8	3	3

N.B. figures are averages based on a study of 13 major sets of old and new systems.

Source: Cost Growth in Weapons Systems, Report to the Committee on Armed Services by the Comptroller General of the U.S., March 26, 1973.

components of all weapons have become more costly the technical superiority of weapons may be no different to earlier generations of weapons, so that there is no tangible benefit from improved performance.

It must be concluded that Turkey faces a technology gap in sophisticated arms production that is so great

TABLE 5.4

Development Costs of U.S. FighterAircraft, 1946-72

<u>Year</u>	<u>Aircraft Designation</u>	<u>Cost per Prototype</u> <u>(U.S. \$m.)</u>
1946	F-84	3.4
1947	F-86	4.3
1953	F-100	16.1
1956	F-106	24.4
1972	F-15	66.3

N.B. costs are expressed in constant (1962) prices.

Source: Official Price List, London, Aviation Studies Atlantic (periodical).

that the countries that engage in major research and development have an unbridgeable gap for the foreseeable future. The best that Turkey could hope for would be licensed production of the latest generation of weapons, but until the industrial base becomes largely self sufficient the assembly of imported components would inevitably be characterised by high unit costs. The alternative for Turkey would be for it to aim to produce different kinds of weapons than those used by the more developed countries, that is with a lower

technological level. Weapons purchased by L.D.C.s often have different characteristics, for example they may be suitable for counter-insurgency warfare. Therefore, Turkey could concentrate on producing personnel carriers, tanks, armed trainers, light transport and strike aircraft, light patrol submarines and helicopters. Once again it would be necessary to begin with licensed production but it would be hoped that eventually full domestic production, with most components produced indigenously, could be achieved.

This alternative approach to arms production is also fraught with problems. Until the major proportion of components for the arms products are produced domestically then Turkey would simply be moving from one form of dependence to another - from dependence on imports of weapons to dependence on imported licenses and components. This new form of economic dependence can still have repercussions in terms of political dependence, which can be used by the supplying country to enforce its hegemonic position. During 1977 Israel wanted to export the Kfir fighter to Ecuador, but because it was powered by an American engine the U.S. was able to refuse permission.⁴⁰ Moreover, in so far as Turkey was unable to produce the latest and most advanced weapons, then the international arms race would put pressure on Turkey for these to be imported at great cost to the balance of payments. In the case of those weapons that are produced domestically Turkey may find

that it is cheaper to import. Whynes (1979)⁴¹ gives the example of the Gnat fighter produced by India at a unit cost of \$2.5 million, a figure in excess of the import price. During 1980 India was negotiating to produce the Anglo-French Jaguar, a deep penetration strike aircraft, under license, but one of the arguments against it was that the unit cost at Rs 200 million was about double the cost of buying the plane from Britain.⁴²

There are several reasons why domestic arms production in Turkey would be more expensive than importing the complete system. Arms production is capital*intensive, but Turkey is relatively well endowed with labour while capital is scarce and expensive. The labour that is required in weapons production needs to possess skills which are not readily available. In so far as trained manpower is drawn from civilian industry there may be harmful side-effects, and manpower training will be expensive. Initially many of the components will be imported and the supplier is likely to use its monopoly position to charge higher prices. On the other hand domestically produced components are also likely to be expensive since manufacturing industry in Turkey is inefficient having grown up with the help of subsidies and tariff protection. Unless Turkey is able to carve out an export market for its arms, which will be difficult unless the quality of its products is at least as high as elsewhere, then the scale of production and the length

*allowing for investment in human capital

of the production run may not generate sufficient economies of scale to minimise unit costs. Large scale production and long production runs would be particularly important once Turkey began to commit resources to research and development, otherwise the cost would be prohibitive. The cost of launching a new aircraft, for example, falls into three major (overhead) categories - design and development, expenditure on jigs and tools, and education in the ^{early} part of the production cycle when project skills and expertise needs to be acquired - can be extremely expensive and is only worthwhile if a good production run is likely.

Domestic arms production may be more costly than importing arms, but there is another aspect to the decision which needs to be considered. One of the objectives is to reduce the foreign exchange costs of acquiring arms, and once domestically produced components and parts are incorporated into the products then savings on foreign exchange should follow. The practice of limiting imported components in arms production would be consistent with the arrangement in all the major assembly industries in Turkey, where imports of parts are only permitted when local content requirements are met. The existing arrangement is that the Turkish government sets the amount of foreign exchange to be saved by local content substitution and this determines the maximum value of parts to be imported. Unfortunately

one of the consequences of enforced levels of foreign exchange saving is that it leads to inefficiency and high cost production, which would in the case of arms production, diminish the possibility of exports in the absence of subsidies.

Manpower and Employment

One of the important ways that the 'defence industry' affects the economy is through the number of persons that are employed in military service. Table 5.5 presents estimates of the changes in military manpower and related variables that have occurred in Turkey between 1950 and 1978. There are also two other groups of people employed in the defence sector - personnel of the service and supply departments and persons engaged in defence production and research work - but while it is possible to estimate the numbers employed in the armed services it is virtually impossible to do so for the other two groups. Civilians employed in defence provide not only specialist and administrative expertise which is necessary for the effective operation of the armed forces but also direct support and maintenance for day to day activities. A study of the manpower structure in defence for Britain, Germany and Australia indicates that approximately one civilian is required for every 2.4 members of the armed forces. Although it can only be a very crude estimate the same kind of servicing ratio would mean about 250,000 civilians employed in supporting the Turkish

armed forces. An estimate of those engaged in arms production must also be very approximate since not all of the workforce employed by the multi-product firms that produce arms are actually in arms production. An enlightened guess would suggest about 30,000 people engaged in defence production. Table 5.5 gives details of the total armed forces, including conscripts, the ratio of military manpower to population, the proportion of the male population between the ages of 15 and 64 that are in the armed forces, the level of military expenditure per member of the armed forces, the number of trained army reservists and the level of the para-military forces.

The level of military manpower in the armed services has remained remarkably stable since 1950, averaging between 450,000 and 500,000. There is cross-section evidence to show⁴³ that the size of the population is positively related to the numbers employed in the armed services, but in the case of Turkey while population more than doubled in the period 1950-78, military manpower remained more or less constant. This point is made clear in column (2) of Table 5.5 where it can be seen that military manpower as a proportion of the population declined from a peak of 2.4 per cent in 1950 to 1.1 per cent in 1978. These figures do not fully reflect the diversion of manpower away from productive activity, however, since the most productive labour group in the economy are males aged between 15 and 64. Column (3)

TABLE 5.5

Military Manpower and Related Variables, 1950-78

<u>Year</u>	<u>Military Manpower</u> <u>000's</u>	<u>Military Manpower as</u> <u>percentage of</u> <u>Population</u>	<u>Military Manpower</u> <u>as percentage</u> <u>of Male</u> <u>Population</u> <u>aged 15-64</u>	<u>Military Expenditure</u> <u>per member</u> <u>of the</u> <u>Armed Forces</u> <u>TL*</u>	<u>Trained Army</u> <u>Reservists</u> <u>000's</u>	<u>Para-</u> <u>Military</u> <u>Forces</u> <u>000's</u>
	(1)	(2)	(3)	(4)	(5)	(6)
1950	500	2.4	n.a.	5404	n.a.	n.a.
1963	452	1.5	5.3	10978	2500	n.a.
1968	514	1.5	7.7	11562	450	40
1970	478	1.4	7.3	13048	570	40
1973	455	1.2	5.9	17523	800	75
1975	453	1.2	4.9	31912	775	75
1978	485	1.1	5.8	32419	525	110

Note: * at constant, 1970, prices.

Source: Derived from I.I.S.S. Military Balance (various dates).

shows that on average over 5 per cent of the potential economically active male population has been removed from civilian production. Even this, however, underestimates the displacement of labour, since there were 110,000 men in the para-military forces in 1978 and a further half-a-million part-time soldiers employed as trained army reservists.⁴⁴ After allowing for these other two groups and the people employed in the service and supply departments and those engaged in defence production it is likely that the proportion of economically active males absorbed into military activity was in excess of 10 per cent in 1978.

Table 5.5 also reveals that increases in military expenditure have not been associated with higher levels of military manpower, but rather that military expenditure per man has risen considerably as shown in column (5). There are two main reasons for this. Firstly, the rapid rate of development in military technology means that each new generation of weapons is more expensive and more capital intensive than the old. Secondly, the salaries and wages paid to the armed forces have risen in line with the growth in per capita income, particularly since the military coup of 1960.

An important question to be considered is whether the 'defence industry' which has absorbed over 10 per cent of the potential economically active male population represents a loss to civilian production. On the face of it the answer would seem to be no, since Turkey's

problem in the post-war period has been one of excess labour rather than one of shortage. Even during the rapid growth of the 1960s unemployment was between 8 and 10 per cent, while during the 1970s it rose towards 20 per cent. It is quite clear that Turkey has needed to create more jobs which could be taken to indicate that military expenditure should have been increased even further so as to absorb more labour from the pool of unemployed. This response would have been wrong since military activity, like much of manufacturing, has become highly capital intensive and might not create too many domestic linkages. It has been shown⁴⁵ that for the U.K. defence spending accounted for only 1.2 per cent of production in construction, 1.3 per cent in food and 0.7 per cent in clothing and these were the industries most likely to benefit from increased military expenditure. To take on more military manpower in order to reduce unemployment would not solve the problem, but merely switch the burden of maintaining the (former) unemployed from the private to the public purse. Furthermore, there may be other labour intensive state activities that could be expanded which would create more jobs and contribute more directly to welfare.

While it must be accepted that the military does not deprive other 'civil' industries of 'general' labour there is the need to distinguish between different types of labour. Agricultural under-employment and urban unemployment amongst the unskilled co-exists

with shortages of labour possessing skills and education. Each of the five year plans have recognised that while there has been a general surplus of labour in Turkey there has been a shortage of skilled labour. For example, the documents relating to the Second Five Year Plan⁴⁶ specifically refer to the scarcity of trained manpower and the need to commit resources to education in order to raise the skill level of labour. Turkey has been particularly short of trained management, engineers, technicians and trained workers as well as all kinds of professional workers. The shortage of skilled workers was made worse by the system of exporting workers to Western Europe. Abadan-Unat (1976)⁴⁷ has shown that between 1965 and 1971 over 30 per cent of Turkish workers departing to work abroad were 'professionally' qualified in manual skills with the majority of them aged between 25 and 35 years. The important question for this study is whether the military deprives more productive sectors of the economy of 'scarce human capital.' In order to try and answer this question it is necessary to consider the position of military education within the Turkish educational system.

Military Education

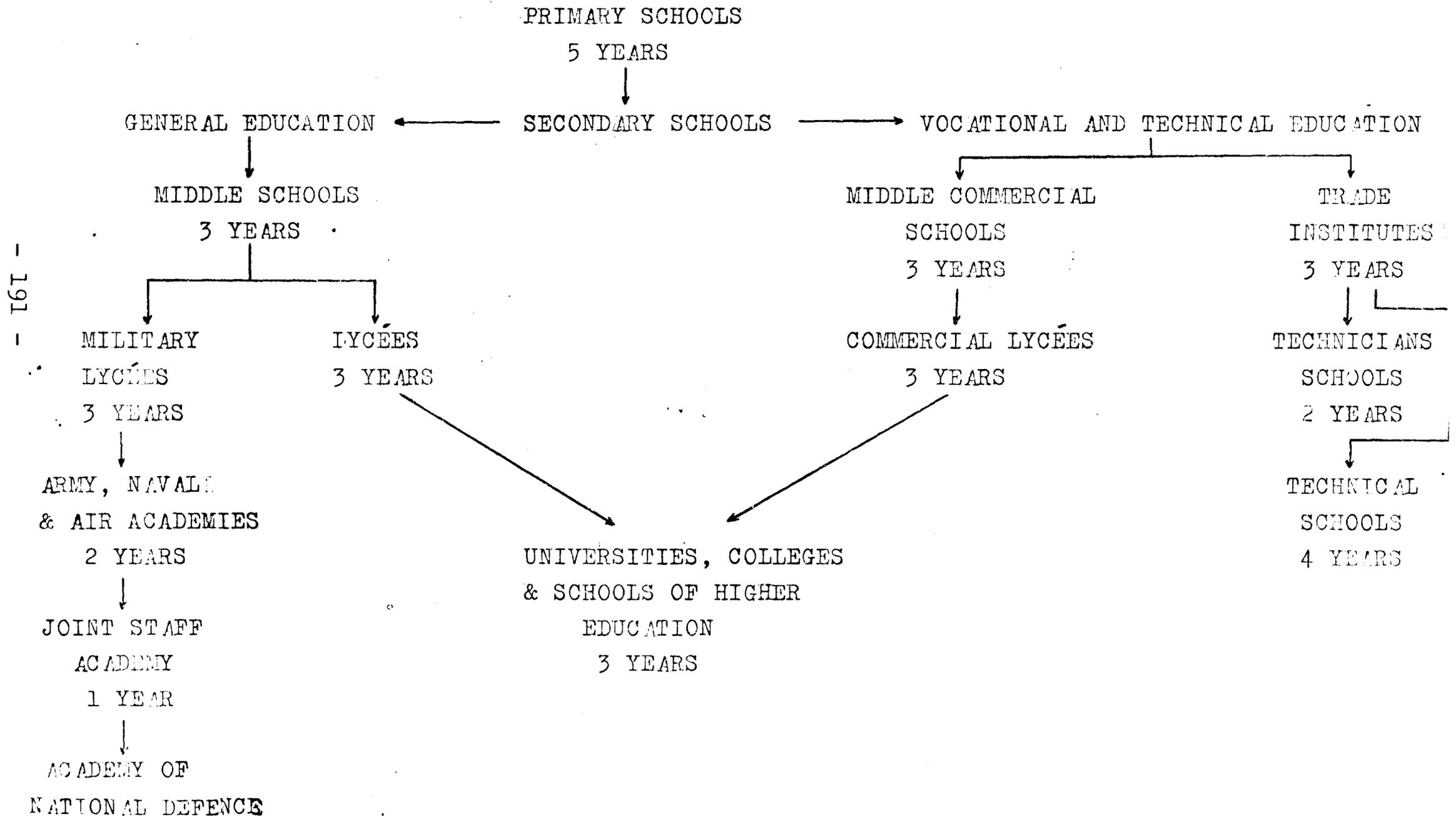
Primary education in Turkey is compulsory and free in state schools from the age of 6 years. Those who graduate from primary school can go through to secondary education. Within secondary education there are two

pathways, one providing general education, the other one vocational and technical. Those students who wish to receive a theoretical and practical training before becoming skilled workers in industry go through the trade institutes, and those who aspire to the lower supervisor and management grade or to the higher positions in industry go on to the technician and technical schools respectively. It is also possible for students to go through secondary (middle and lycée) and higher educational schools of commerce. The 'general' pathway through secondary education involves going through two levels, middle school and lycée, which then permits the student to enter higher education. The various pathways through the educational system are summarised in Figure 5.1.

Military education begins after the middle school with a system of military lycées. Entrance to these lycées is competitive and although there are no detailed published statistics the number of applicants was almost certainly rising during the 1960s.⁴⁸ After military lycée students enter the Army, Naval or Air Academy as officers, and those who successfully complete two years then go on to do a further year at the Joint Staff Academy. The highest level of military education is the Academy of National Defence where officers of field or general rank are given further training designed to facilitate co-operation between the civilian and military authorities, particularly with reference to resource

FIGURE 5.1

The Structure of Education in Turkey



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mobilisation in time of emergency.

All three branches of the service also provide a large number of technical training schools for officers and enlisted men. Among the airforce training schools are a war school, a reserve officer school, a technical school, a communications school, a supply school and a maintenance school. The army also has many training schools including those for veterinary medicine, cartography, communications, personnel, music, medicine, cavalry, engineering, supply, finance, and artillery.⁴⁹

As of 1975 out of the total armed forces of 480,000, 257,000 were conscripts, required to do 20 months military service, so that the remainder, that is 223,000, were professional soldiers.⁵⁰ There are no recent official statistics on how many of these professional soldiers were commissioned officers, but using the rule of thumb of one officer to every nine men,⁵¹ would suggest around 60,000 commissioned officers, including about 10,000 in the para-military forces.⁵² Since 1950 it has been possible for non-commissioned officers to move into the commissioned officer rank, but Robinson (1967) claims that few non-commissioned officers make this vertical movement. It can be assumed, therefore, that about 60,000 commissioned officers were serving in the Turkish armed and para-military forces⁵³ in 1975, each one of them having graduated from the lycée and possessing advanced training from one of the military academies.

The 60,000 commissioned officers in the Turkish armed forces were among 333,107 people with a university (or equivalent) degree in 1975, which is shown in Table 5.6. Only 3.8 per cent of the Turkish population were lyc ee graduates in 1975 and only 1 per cent possessed a university degree, yet in spite of the great shortage of professional and higher level management personnel, 18 per cent of higher education graduates were employed in the armed forces. There is no evidence that the armed forces absorb the brightest and ablest talents from the Turkish educational system, although historically and continuing in the period since the founding of the Republic all civil servants, including the military, have enjoyed a high status and have been an honoured stratum within Turkish society, so that many talented young people may have been attracted to the military in preference to 'productive' civil industry. Two separate studies on the ranking of occupations by lyc ee students, carried out by Helling (1958)⁵⁴ and Kazamias (1965)⁵⁵ both give a military officer a rank of 5, which indicates that an army career was still highly valued by students in the post-war period.

It is not only that the military may draw off very able youths which are then lost to industry but it is also that the educational facilities for training manpower in Turkey have been very scarce throughout the post-war period, and that the priority given to the military academies, which dates back to the nineteenth

TABLE 5.6

Turkish Population having Completed Lycee Level
and Higher Education, 1975

	<u>Total Population</u>	<u>Lycee Level of education completed</u>	<u>Higher education completed</u>
Total	33,672,121	1,274,149 (3.8)	333,107 (1.0)
Male	17,084,625	842,343 (4.9)	266,014 (1.6)
Female	16,587,496	431,806 (2.6)	67,093 (0.4)

Note: percentages in brackets.

Source: 1975 Population Census, 1 per cent sample Results, as reported in the Statistical Yearbook of Turkey, 1979, State Institute of Statistics, Pub. No. 890, Ankara, 1979 Table 33.

century, has meant that other branches of education have been deprived of resources. In a period when Turkey has found it very difficult to expand its educational sector because of a lack of resources, including trained teachers, then the opportunity cost of giving priority to educating the military has been the engineers, the chemists and the economists that have been sacrificed, with the wider effects this has had on the development

process. The conclusion to be drawn is clear. Turkish industry has been short of the highest levels of skilled labour and the military have been very successful in draining off a significant proportion of the student population wishing to enter into fields of higher education. There is another issue to be considered too, and that is whether increased arms production, as envisaged under the new defence policy of 1975, would help to solve the problem of unemployment. This will now be considered.

Job Creation in Defence Production

The more developed countries dominate the generation and control of technology. The critical fact from the point of view of the L.D.C.s is that in the non-socialist world 98 per cent of all research and development takes place in the more developed countries (M.D.C.s), and 70 per cent occurs in the U.S.A. alone.⁵⁶ This fact has led many economists and politicians (and others) to argue that inequality in the origin of technology has adverse effects on development within the L.D.C.s, primarily because the technology⁵⁷ that is transferred is inappropriate to factor endowments. It is argued that the M.D.C.s are characterised by a scarcity of labour and a relative abundance of capital so that the technology that emerges tends to be labour-saving and capital intensive. Inevitably the L.D.C.s that adopt Western technology employ capital intensive

techniques and it is important to consider the consequences of this for those countries that have abundant supplies of labour. Consider a hypothetical example using a two-factor production function with capital and labour as the inputs. The production function can be represented by

$$Q = f (K,L) \quad (1)$$

where Q = output or production

K = capital input

L = labour input

Given any level of output, Q_0 , efficiency requires that it be produced as cheaply as possible. This means that the expenditure on inputs should be minimised, where this expenditure is given by

$$M = rK + wL \quad (2)$$

where M = total cost of production

r = price per unit of capital

w = price per unit of labour

The optimum combination of inputs will be achieved when M is minimised subject to the constraint imposed by the production function. The Lagrangean expression⁵⁸ for this constrained minimisation problem becomes

$$M\lambda = rK + wL + \lambda [Q_0 - f (K,L)] \quad (3)$$

where λ is the undetermined Lagrangean multiplier.

To find an extreme value, that is to minimise the expression (3), each of the partial derivatives of (3) are set equal to zero

$$\frac{\partial M\lambda}{\partial K} = r - \lambda \frac{\partial f}{\partial K} = 0 \quad (4)$$

$$\frac{\partial M\lambda}{\partial L} = w - \lambda \frac{\partial f}{\partial L} = 0 \quad (5)$$

$$\frac{\partial M}{\partial \lambda} = Q_0 - f(K, L) = 0 \quad (6)$$

The values of L and K that simultaneously satisfy these three equations are those that minimise costs, given w and r, to produce Q_0 . From equations (4) and (5) we can rewrite

$$r = \lambda f_K \text{ and } w = \lambda f_L$$

where $f_K = \frac{\partial f}{\partial K}$ and $f_L = \frac{\partial f}{\partial L}$

Dividing one equation by the other we obtain

$$\frac{r}{w} = \frac{f_K}{f_L} \quad (7)$$

This states that for cost minimisation the factors should be employed in such quantities that the ratio of their marginal products are equal to the ratio of their prices. This is the familiar tangency condition.

Relating this to the U.S.A. and Turkey, it will be assumed that Turkey is well endowed with labour but has a scarcity of capital, while the U.S.A. is capital rich and has a scarcity of labour.⁵⁹ Furthermore it is assumed that these factor endowments are reflected in factor prices, such that

$$\left(\frac{r}{w}\right)_T > \left(\frac{r}{w}\right)_{\text{U.S.A.}} \quad (8)$$

Therefore it follows that cost minimisation requires that

$$\left(\frac{fK}{fL}\right)_T > \left(\frac{fK}{fL}\right)_{\text{U.S.A.}} \quad (9)$$

If it is further assumed that the production function is continuous and we have diminishing marginal substitutability (isoquants are convex to the origin) then the equilibrium capital/labour ratio will be higher in the U.S.A. than in Turkey.

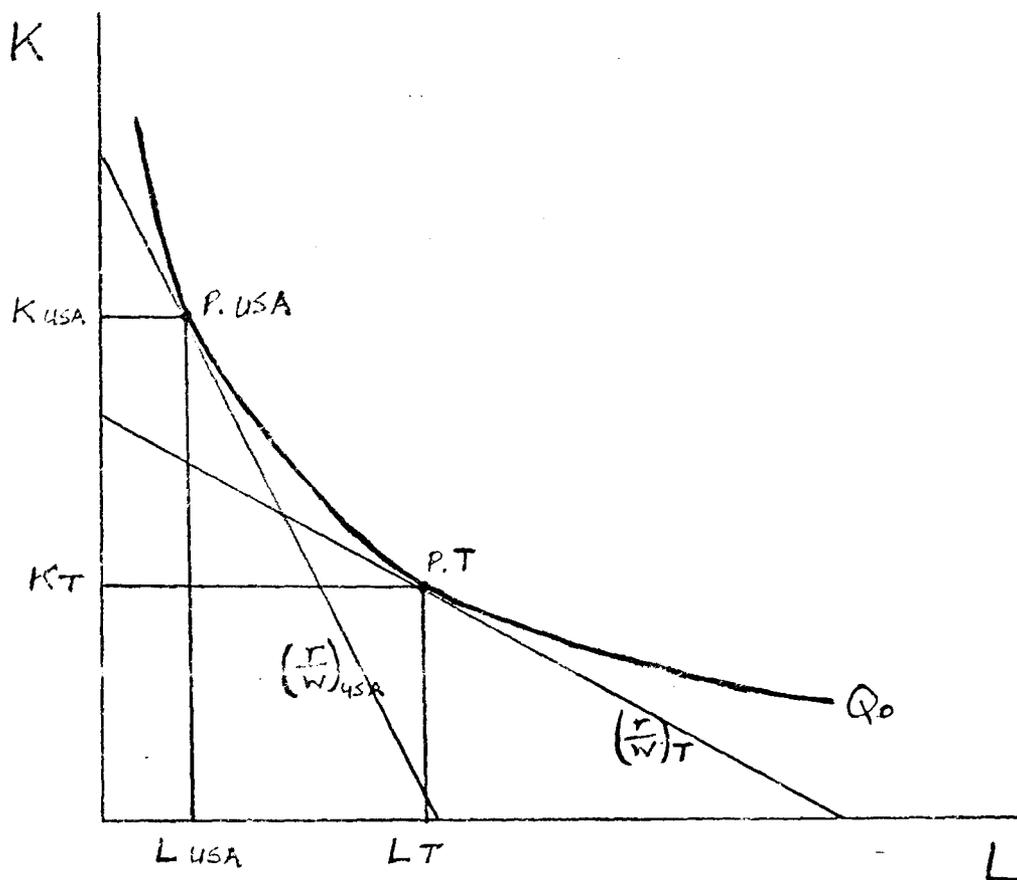
$$\left(\frac{K}{L}\right)_{\text{U.S.A.}} > \left(\frac{K}{L}\right)_T \quad (10)$$

This is illustrated in Figure 5.2 where the isoquant represents a given level of output, Q_0 . In the U.S.A. capital is relatively cheap which gives the price line $\left(\frac{r}{w}\right)_{\text{U.S.A.}}$ while in Turkey capital is relatively expensive which gives $\left(\frac{r}{w}\right)_T$. The points of tangency PUSA and PT represent the least cost combination of inputs required to produce output Q_0 for the U.S.A. and Turkey respectively. It can be seen that the U.S.A. employs more capital per unit of labour than does Turkey.

If this hypothetical example was a close approximation to reality then Turkey would use more labour intensive methods of production than the U.S.A.

FIGURE 5.2

Hypothetical Production Function with
given Factor Endowments for
Turkey and the U.S.A.



within its defence industry. However the preceding analysis is based on unrealistic assumptions, and when these are allowed for the outcome is changed significantly. First of all, the production function and the corresponding isoquant used in the example assumes that labour and capital can be combined in any proportion to produce arms, yet in the real world there may be a very limited choice of technology. Kaldor (1980)⁶⁰ argues that military technology takes a 'specific form' in each

society and is a function of the available level of technology, (which itself depends on the mode of production), the military objective and the form of military organisation. In the U.S. the technology generated reflects the prevailing industrial structure but is also related to the need to keep to time and design specification limits. Kennedy (1975)⁶¹ points out that the production techniques depend on the product. With small arms, which are the simplest weapons to produce, there is a need for light machinery - lathe, drill, bore, ream, grind and press machines and metal forming - but with aircraft production high technologies are involved and manufacture tends to be on a small scale. Airframe construction is similar in concept to that of a boat, but the "tolerances are much finer and the fabrication processes much more complex and must meet rigid design standards."

Secondly, the hypothetical analysis takes no account of different kinds of labour. When complex weapons systems are produced (for example involving aircraft) then mainly skilled personnel are required and few jobs for unskilled labour are created, which is precisely the opposite of the labour force available in many L.D.C.s, including Turkey (Lock and Wulf, 1979).⁶² The design, manufacture and assembly of aircraft, some items of armour, and guided missiles is a labour-intensive process, but requires very skilled manpower which may need to be imported at very great

cost. In the case of India the defence research and development organisation and the related research projects employ more scientists, engineers and technicians than private industry as a whole.⁶³ Clearly arms production can be expected to create new specialist jobs but skilled labour requires investment of scarce capital and it must be considered whether more jobs could have been created elsewhere.

Thirdly, the analysis is a static one and does not allow for the time⁶⁴ it will inevitably take to build up indigenous arms production, which in any case is likely to be on a limited scale.

The danger for Turkey is that arms production will be relatively capital intensive (allowing for investment in human capital) and employment creation limited. For reasons outlined previously it is extremely unlikely that arms production in Turkey could be justified on comparative cost grounds, even after a period as an infant industry, and in terms of employment creation other products would be more appropriate. The choice of product is closely linked to the choice of technique since once the product has been determined then the choice of technology is constrained. Some products can be manufactured using more labour intensive techniques - like wood and leather products, rubber products, chemicals, tobacco (Sutcliffe, 1971)⁶⁵ and capital goods industries may actually be relatively

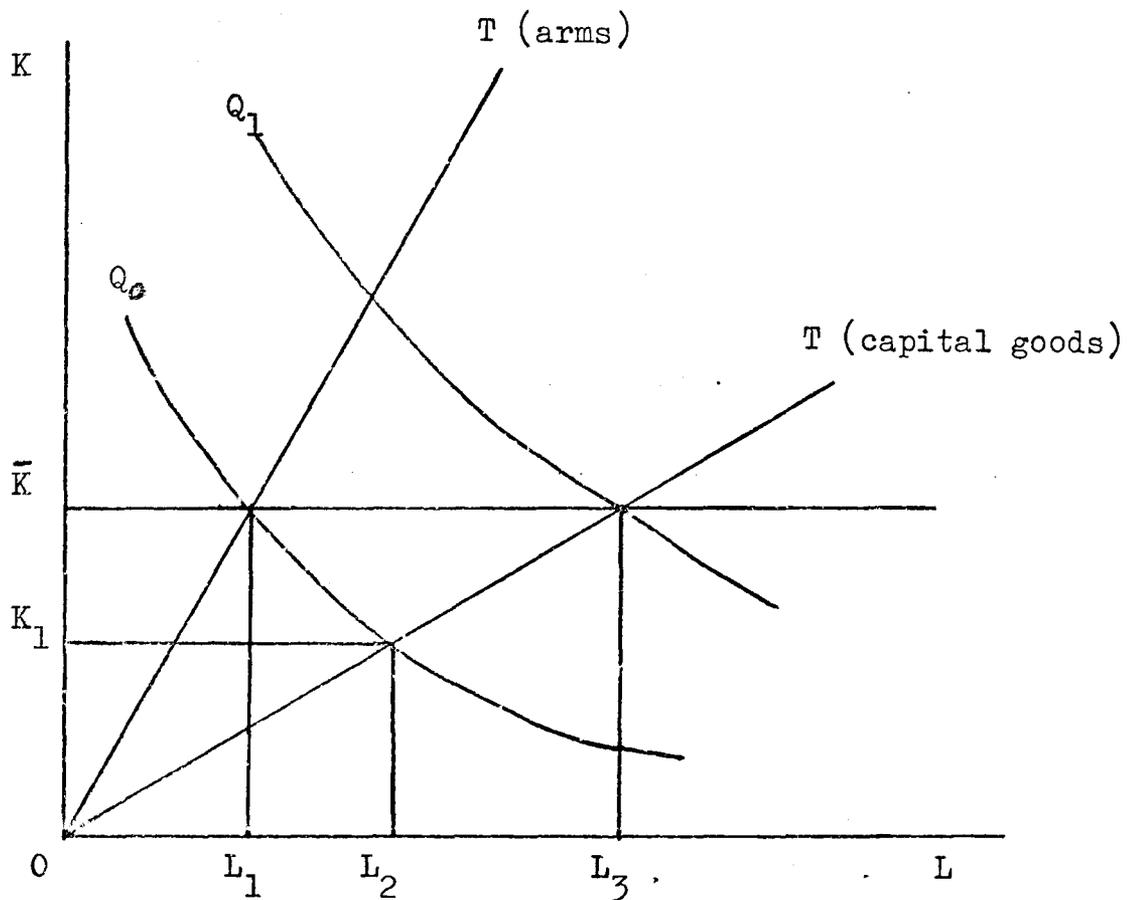
labour-intensive (Pack and Todaro, 1969).⁶⁶ These products may be more appropriate to Turkey than the sophisticated products, like arms, where technological choice is likely to be limited or non-existent. This can be illustrated in Figure 5.3.

Assume that Turkey is endowed with abundant labour (L) and scarce capital (K) which is fixed at \bar{K} . Further, a choice has to be made between producing arms or capital goods, the former employing a capital-intensive technique (T arms) and the latter a more labour-intensive technique (T capital goods). If arms are produced output would be Q_0 with employment of L_1 , whereas if the labour-intensive product is produced then the same output, Q_0 ,⁶⁷ could be achieved with less capital (K_1) and employment of L_2 . Alternatively, if capital goods are produced then output could be expanded to Q_1 and employment to L_3 .

Arms production then is likely to absorb scarce capital and skilled labour, yet do little to create jobs for the mass of unemployed. In the short-run it would be necessary to employ skilled foreign personnel, but even when indigenous labour has acquired the necessary skills there may be no direct spillover effects to the civilian economy, as the specialised knowledge, especially in research and development, may be highly specific to sophisticated arms production (Landgren-Backstrom, 1980).⁶⁸

FIGURE 5.3

Choice of Technique and Employment



One way that capital intensive (arms) production may be deemed to be superior to labour-intensive production is through the impact on growth. The theoretical literature⁶⁹ indicates a sharp conflict between future growth and present output, consumption and employment. Capital-intensive techniques generate a higher surplus than labour-intensive techniques and therefore make possible more investment. This conclusion rests on the following assumptions: (1) that wages are no higher under capital-intensive production, (2) that

savings out of wages are negligible, (3) that unemployment does not reduce community saving, (4) that consumption has no investment content, and (5) that governments are not able to use taxes and subsidies to achieve desired ends. Once these assumptions are relaxed then there may be no conflict between output, employment and saving,⁷⁰ so that it cannot be argued that arms production will inevitably generate higher rates of growth than more labour-intensive production. This does not mean, however, that Turkey, or other L.D.C.s, should always choose labour-intensive techniques (intermediate technology), indeed in some cases there may be little choice once the product has been determined.

Summary

It has been argued that the setting up of an arms industry in Turkey in order to enhance national security and to act as a vehicle for development may not be as successful as is sometimes assumed.⁷¹ During the 1970s Turkey has faced a series of economic problems which have been socially divisive and/or have impaired the rate of development. The main problems have been a lack of foreign exchange, high and rising levels of unemployment, dependence on imports of machinery, raw materials and technology, and a scarcity of capital resources. It must be seriously questioned whether arms production can be a vehicle for industrialisation

and development since it does not tackle these problems.

Little, Scitovsky and Scott (1970)⁷² and Myint (1972)⁷³ have argued that import-substituting industrialisation has severe shortcomings. It has often resulted in inefficiency and high prices due to excessive protection. Domestic economic policies in L.D.C.s and the availability of foreign aid encouraged the import of capital-intensive technology, unsuited to factor proportions. Old industries were replaced by new, but unemployment and excess capacity increased. In short, import-substitution turned out to be self-defeating as the domestic market was soon exhausted and imports of machinery, components and technology placed a burden on foreign exchange. This does not mean that the alternative of outward looking strategies would be more successful since it can be argued that import-substitution has failed because it has been badly conceived (Sachs, 1973),⁷⁴ and that import-substitution through arms production in Turkey would suffer from these same shortcomings. Moreover, there is the danger that sophisticated arms production programmes with capital- and skill-intensive technology would increase the dependency of Turkey on the U.S.A. and perpetuate uneven development and under-development (Lock and Wulf, 1979).⁷⁵ Technology can only be transferred gradually in an embodied form, but the rate of product innovation and technological obsolescence

in weapons production is such that Turkey could not be self-sufficient in the foreseeable future without impossible levels of expenditure in manpower training and research and development. Licensed production of arms leaves the control of technology in the hands of foreign firms but even when L.D.C.s are able to acquire some 'share' in the production of arms the parent company retains control of the technologies employed and determines the allocation of resources, so that the pattern of production that emerges is a form of "vertical integration of production on an international scale."⁷⁶ These characteristics of arms production combined with the high level of indirect costs of infrastructure and software provision may mean that it contributes less to development than other 'civil' industries. It is certain, at least for Turkey in the short-run, that domestic linkages will be limited, and the requirements of machinery, machine tools, energy and raw materials will need to be imported, so that it is by no means certain that the foreign exchange position will be improved.⁷⁷

In spite of rapid industrialisation since 1962 it is arguable that Turkey's industrial base is not strong enough to sustain an uneconomical and unreliable arms industry which is inherently dependent on imported inputs and therefore cannot make her self-reliant in the near future. Since sophisticated arms projects entail a long and unpredictable gestation period cost

estimates are very difficult to make⁷⁸ but the advancement of other industrial sectors may be inhibited through the absorption of scarce resources.

CHAPTER 6

MILITARISM AND EXTERNAL ECONOMIC RELATIONS

Introduction

It is widely agreed that those countries that rely on imports for their supplies of military weapons are absorbing scarce foreign exchange resources which are thus prevented from being used for other peaceful purposes including development.¹ On the other hand while it might be argued that disarmament would permit improvements in the standard of living and the rate of growth of particular countries it is by no means obvious that the balance of payments would benefit.² Some writers have stressed that it is important to distinguish between different kinds of military transfers and that the U.S. military assistance programmes have had beneficial effects on recipient countries. Burke (1964)³ has argued that military assistance in the form of public works may have favourable economic effects. Glick (1967)⁴ stressed that military assistance programmes that encouraged public works and educational activities would help economic development. Shepler and Campbell (1969)⁵ emphasised that U.S. military assistance abroad could have favourable effects on recipient countries since it meant a substantial inflow of financial resources. Other writers^{6,7} have recognised that the contribution that military assistance makes to economic

development may depend on it not absorbing too many domestic resources or scarce foreign exchange.

This chapter considers the reasons for the growth in the supply of arms to Turkey and assesses the consequences for economic development. It is argued that U.S. economic assistance must be understood in terms of its complementary relationship with military assistance and that it has not as a consequence been very effective in the development effort. Political, strategic and military motivations have determined the level and form of Western economic and military assistance to Turkey which have been instrumental in opening up the economy to private foreign capital flows. The pattern and type of foreign investment contributed to an inefficient allocation of resources, led to higher levels of imports of capital goods and industrial raw materials yet did little to improve employment prospects or export earnings and increased Turkey's dependency on the industrialised world.

Military Transfers

For most developing countries military resource consumption is divided between the purchase of military resources from the domestic economy and the flow of arms from international suppliers. The international arms flow can be either in the form of trade, or aid, which, theoretically, are quite separate and distinct.

Aid is distinguished from trade in that the former implies a transfer of resources at a concessional rate in that either a grant is given to the recipient country which does not need to be repaid, or a loan is made, to cover the flow of goods, which carries a low rate of interest, a long repayment period or a 'period of grace' during which interest charges are waived.

Trade on the other hand is the result of the operation of normal market forces, and the terms of trade are determined by the form and degree of competition in the market. In practice the distinction between trade and aid is not always so obvious in the sense that one country receives a concession from another country, particularly since export credits have become a normal part of the trading activity between L.D.C.s and the industrialised countries. Both economic and military aid tends to be given because it enhances the national foreign policy of the donor country and it is 'tied' to particular commodities which reduces the freedom of the aid-receiving country to buy the most appropriate goods at the most favourable price.⁸

In the case of international arms flows the distinction between trade and aid is extremely difficult to ascertain. Whynes (1979)⁹ categorises international military transfers into six forms, as follows:

1. donations of military equipment to L.D.C.s, which are often surplus to the donor's requirements,

2. direct financial grants to L.D.C.s for the purchase of military equipment or to develop other military facilities such as training schools,
3. the granting of preferential terms for the purchase of military equipment, such as credit arrangements or the permission to pay in local currency,
4. 'normal' trade at cost price.

In addition with respect to labour, the industrialised countries might:

5. provide training facilities in a developed country's institution for selected members of the L.D.C. armed forces,
6. send military missions or experts to advise and train the L.D.C. military, in situ.

Although (1), (2), (5) and (6) might be categorised as military aid they are likely to be 'tied' to certain conditions being satisfied. Myrdal (1971)¹⁰ claims that the U.S. foreign aid programme after the Second World War was motivated by the intensified Cold War that developed rather than the development needs of recipient countries. The reason why countries like Turkey, Greece and Pakistan received considerable economic and military aid was because it satisfied certain political objectives and these countries were required to remain politically and militarily close to the U.S.A. and to commit a large proportion of their domestic resources

to defence. The third form of military transfer has elements of both trade and aid, although the concession given by the donor on the terms of repayment may be offset by an inflated price. Only the fourth form of military transfer would seem to be a clear case of trade and even this is likely to be hedged with conditions. Consequently given the difficulty of separating aid from trade it is easier to combine the two and refer to them as military transfers,¹¹ although whenever there is clear evidence that the transfer is aid or trade this will be pointed out.

The main arms suppliers to Third World countries are the industrialised countries, of which the most important are the U.S.A., the U.S.S.R., the U.K. and France. It can be seen from Table 6.1 that the four major suppliers accounted for 80 per cent of arms transfers in the 1950s and over 90 per cent in the 1960s and 1970s. The rise of the U.S.S.R. to be the major supplier in the 1970s was mainly at the expense of the U.K. which had been second only to the U.S.A. during the 1950s. Other suppliers in the rest of the world are West Germany, Italy, Canada, Sweden, Switzerland, the Netherlands, Japan and China, while in recent years Israel, India and Brazil have also begun to supply arms on a very much smaller scale.

The growth of the arms trade has been very rapid, even more rapid than the growth of military expenditure,

TABLE 6.1

S.I.P.R.I. Valuations of Major Weapons Supplied
to Third World Countries by the Four Major
Suppliers, 1950-75 in U.S. \$m. at
constant (1973) prices

Figures in brackets are percentages of totals.

	<u>1950-59</u>	<u>1960-69</u>	<u>1970-75</u>	<u>1950-75</u>
U.S.S.R.	1058 (15)	5749 (41)	7381 (38)	14188 (35)
U.S.A.	2272 (33)	4506 (32)	6690 (34)	13468 (33)
U.K.	1631 (24)	1745 (12)	1951 (10)	5327 (13)
France	561 (8)	1877 (13)	1881 (10)	4319 (11)
Total of Four Major Suppliers	5522 (80)	13877 (98)	17903 (92)	37302 (92)

Source: F. Barnaby in R. Jolly (ed.) Disarmament
and World Development, Table 2.8, p.18.

and about two thirds of the world total has gone to Third World countries. By 1976, according to S.I.P.R.I., 95 countries imported major weapons - tanks, ships, missiles and aircraft - so that participation in the build up of arms has been worldwide. Table 6.2 presents data on the value of imports of major weapons by Greece and Turkey together in the period 1950-72. As there are large fluctuations in imports from year to year two series are given - the yearly figures and five-year moving averages. The value of weapons imported by Greece and Turkey remained fairly constant in real terms in the period 1950-72, although this represented a declining proportion of the world total. Between 1950-54 Greece and Turkey between them took over 20 per cent of all imports of major weapons received by Third World countries and this reflected their designation as 'forward strategic areas', but from then on the proportion fell to 15 per cent between 1960-64 and down to less than 7 per cent after 1965. During the 1970s Turkey (and Greece) continued to import arms on a large scale, and even in 1978 when the economy was in serious difficulties Turkey ranked sixth in the industrialised world in the list of importers, accounting for 3 per cent of the world total and 8 per cent of the industrialised countries total.¹²

The data available on the arms trade cannot, however, be taken as complete since there are certain

TABLE 6.2

Values of Imports of Major Weapons by
Greece and Turkey, 1950-72, in U.S. \$m. at
constant (1968) prices

The figures in brackets are percentages of the Third World total.¹

A = yearly figures

B = five-year moving average

	<u>1950</u>	<u>1951</u>	<u>1952</u>	<u>1953</u>	<u>1954</u>
A	10 (4.5)	20 (7.4)	70 (33.3)	140 (26.9)	110 (21.6)
B	-	-	70 (20.0)	80 (19.0)	90 (17.3)
	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>
A	50 (8.2)	110 (14.3)	70 (9.2)	330 (25.2)	90 (11.7)
B	100 (15.9)	130 (16.4)	130 (15.5)	140 (15.7)	130 (14.6)
	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>
A	110 (12.8)	30 (3.9)	20 (2.2)	100 (11.9)	70 (10.1)
B	120 (13.0)	70 (8.5)	70 (8.6)	70 (8.5)	90 (10.1)
	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>
A	150 (16.1)	80 (7.3)	80 (6.8)	70 (5.6)	130 (10.0)
B	100 (10.5)	90 (8.7)	100 (8.7)	80 (6.6)	80 (5.9)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
A	20 (1.6)	90 (4.9)	130 (11.0)
B	90 (6.6)	-	-

Note: ¹ Total excluding Vietnam.

Source: S.I.P.R.I. Yearbook, 1973.

omissions from the list and the values are not reliable.¹³ Tables 6.1 and 6.2 cover the trade in 'major weapons' but this is only about half of the total trade in arms, other items being small arms, ammunition, support equipment, spare parts and manpower assistance, some of which may be in the form of a donation and all are very difficult to trace. Another problem arises because the official prices quoted for arms transfers do not necessarily represent the market values but may be adjusted for political reasons. Thus for example Hovey (1965)¹⁴ points out that the value of U.S. military assistance in the 1950s was exaggerated because the military equipment that was transferred was surplus stock, or even second hand, and several years old, yet it was valued at replacement cost. As new equipment would be more sophisticated and powerful

the replacement value would be higher than the true value of the transferred arms. Indeed in this period Hovey stresses that the prices of U.S. arms equipment was considerably above what other suppliers were asking for equivalent equipment. The estimates that S.I.P.R.I. makes on the value of arms transfers have the advantage that they are based on known costs or market prices for the weapons supplied and thus give a measure of the volume of resources transferred, but this means that they do not correspond to the cash flow between buyer and seller, particularly since most arms deals are arranged on a credit or grant basis.

The Supply and Demand for Arms

The arms trade has grown very rapidly in the post-war period and the reasons for this are partly to be found in factors that exist in the supplying countries, which relate to both political and economic policies, and partly to be found in factors influencing demand in recipient countries.

Factors Influencing the Supply of Arms

There are several different factors which determine the supply of arms and not all of them will necessarily apply to all supplying countries at all times. The policy adopted on supply by each country

is invariably determined by political decisions which may reflect not only the position of the supplying country in the international system but also, in the case of Western countries, the power of private capital in the domestic economy. S.I.P.R.I.¹⁵ distinguishes three factors that determine the pattern and level of supply.

1. hegemonic
2. industrial
3. restrictive

The first factor refers to the control of arms transfers by a supplier in order to maintain a position of hegemony or domination either within the receiving country or more widely within the world. Arms may be supplied to non-arms producing countries to support a particular political group or class, or prevent another faction from assuming power. Certainly the U.S. used its military assistance programme in Turkey to reinforce anti-communism and encourage support for the West, and America in particular, against the U.S.S.R. Yet a hegemonic position cannot be maintained through arms supplies alone, and the ideological role of military education and training programmes provided by the U.S. in Turkey were, perhaps, even more vital to continued U.S. domination. Furthermore, the 'mutual competition' between the U.S.A. and the U.S.S.R. to increase their spheres of influence in the rest of the world has acted to expend the level of military

transfers, particularly to Third World countries. During the 1960s the U.S. changed its arms supply strategy away from the concept of 'massive retaliation' towards 'flexible response', which implied a willingness to use conventional forces in combat. The weakness of Turkey in its ability to engage in external conflict also led the U.S. to concentrate its aid on "training and equipping local forces to counter internal guerilla operations",¹⁶ and it was during the 1960s that the U.S. exports of major weapons to Turkey began to decline.

The second factor determining not so much the pattern but the level of arms transfers relates to the economic advantages of large scale production. Even if an arms industry can be kept viable by domestic consumption alone there are still enormous pressures to reduce the cost of arms by expanding the market and thus achieving lower unit costs of production. Arms transfers abroad permit longer production runs, which reduces the unit cost of overheads like research and development and fixed items of capital. A longer production run also increases productive efficiency and labour and material costs per unit can be expected to fall as experience is gained. The willingness of producer countries to sell arms also depends on the prices that can be charged, although the existence of two major suppliers, each vying for influence, may often result in prices below full

cost. Furthermore, domestic demand for particular arms may fluctuate and exports can go some way towards filling surplus capacity.¹⁷ The savings on U.S. procurement costs due to arms sales have been shown to amount to about 7 per cent, or nearly half of one per cent of the military budget,¹⁸ and the absolute level of dollars involved runs into hundreds of millions.

There are also financial gains to be made from selling old or second hand military equipment. The pace of weapons technology is very fast and obsolescence becomes ever more pressing yet old arms continue to be sold. Turkey was receiving supplies of F-86 Sabre aircraft in the late 1960s even though these had been produced in the early 1950s. For the supplying country selling second hand is better than scrapping, for example the aged M-47 Patton medium tank was estimated to be worth \$2,000 in the early 1970s yet they were sold by the U.S. at \$32,000 each.¹⁹

There may well be a conflict between hegemonic interests and economic efficiency, since maximising exports of arms would require selling to any country even if that country was pro-communist, and it would also require a guarantee of follow up supplies and spare parts, which could mean the supplier loses control or leverage over supplies. Moreover, a hegemonic policy may require the giving of arms as grant-aid

which may generate higher levels of production but cannot be justified in terms of economic profitability.

The third factor influencing supply is the restrictive factor whereby the supplier declines to provide arms to countries if it is likely to draw the supplier into local, national, regional or international conflict. This third factor may operate against the industrial and/or hegemonic interests, which create pressures to supply arms. The U.S. arms embargo on Turkey introduced in 1975 was a special form of restrictive policy, since it was imposed pending withdrawal of Turkish military forces from Cyprus, yet it clearly created a conflict of hegemonic interests for the U.S. because of Greece's position in N.A.T.O., and also restricted potential sales of arms to Turkey. One of the consequences of the embargo was that Turkey began to look around for alternative supplies of arms and entered into negotiations with the U.S.S.R. for SAM-6 and SAM-7 low altitude missiles.²⁰ The developing Turkish-Soviet friendship was crucial in the U.S. decision to end the arms embargo and indicated shifting hegemonic interests.

Factors Influencing the Demand for Arms

In 1925 Turkey had signed a Treaty of neutrality and friendship with the Soviet Union which was renewed in 1929 and again in 1931, and extended for ten years in 1935.²¹ Relations between Turkey and the Soviet

Union at this time were good, and when in 1936, at a Conference at Montreux, full Turkish sovereignty over the Straits through the Dardanelles was restored, the Soviet Union signed the Convention and thus recognised Turkey's right to fortify and defend the Straits. After 1936 relations between Turkey and the Soviet Union deteriorated, partly because of conflict over the establishment of a Communist Party in Turkey, but mainly because in 1939 the Soviet Union demanded changes in the Montreux Convention which would have given her participation in control of the Straits.²² During the Second World War the U.S.S.R. dropped her demands for revision of the Montreux Convention but in 1945 informed Turkey that the Treaty of friendship and non-aggression would not be renewed when it expired later that year. The period immediately after the War was one of extreme uncertainty for Turkey as an important part of her territory was threatened by Soviet expansionism. Arms were demanded for security, to defend the nation state against possible Soviet aggression, yet Turkey was in no position economically to acquire weapons. A desire to acquire arms for security reasons is not sufficient to create demand, since there must also be the means or resources to carry through the transaction, but as Turkey was strategically very important to the West, military aid was made available by the U.S.A. which financed the transfer of arms.

A second factor that may influence the demand for arms is the desire of political leaders to affirm the national identity, which is often centred on a strong, modern military institution. The influence of Ataturk has been all pervasive in Turkish politics and as a military man who led the fight for national liberation against the Greeks he ensured that the army has had a special role in Turkish society. With the founding of the modern Turkish state in the 1920s Ataturk declared its political objective as "peace at home and peace in the world", but this peace, it was understood, could only be achieved through strength. This expression of national strength and unity was adopted by subsequent Turkish leaders, and has meant a commitment to a large well-equipped military establishment.

A third factor in the demand for arms has been the role of the armed forces in politics in Turkey. The great power of the military in Turkey where it has been the final guarantor of economic and social stability and pro-Western orientation has ensured arms requirements have been given priority.

It is possible that these three factors may be related. The demand for arms is increased when war breaks out or is threatened, yet war may be a product of nationalist rivalry and disputes over territory. Moreover, armed conflict may be more likely the greater the stock of weapons possessed by a country.

But it is not only national rivalry that causes arms races, the rapid rate that military hardware becomes obsolete means that there must be a continuous re-investment in the latest technology if security and strategic factors are to mean anything, and the latest most sophisticated weapons can only be obtained through imports for most L.D.C.s.

Supply and Demand Factors Related

The arms trade more than any other can be seen as an expression of a particular relationship between the supplier and the recipient. Turkey and the U.S.A. have been members of the same military alliance in the post-War period, but it has been the U.S.A. as the supplier that has largely determined the form and size of the flow of arms. Luckham (1978)²³ describes the recipient countries as 'clients' who are dependent on the superpowers to sell or donate arms and it is the 'dialectic' of the arms race taking place between the supplying countries that determines the kind of arms that are transferred. This means that the superpowers sell weapons which are either surplus to their own needs or which flow from existing production lines.²⁴ The U.S.A. as one of the two superpowers has satisfied Turkey's demand for arms because it has been in America's interest in its struggle for world hegemony. This important determinant of the transfer of arms does not deny that there has

been a coincidence of aims between Turkish military and political leaders and U.S. governments, but the arms were only supplied as long as Turkey remained a disciplined and responsible member of N.A.T.O. Turkey was willing to rely almost exclusively on the U.S.A. for arms supplies, even though this put her in a position of dependency with America, because the weapons were supplied as grant aid. The deterioration in U.S.-Turkish relations after 1974, and the subsequent arms embargo, did not cause Turkey to reduce its arms imports, on the contrary she began to look for alternative sources of supply and was willing to commit vast sums of foreign exchange to acquire arms in spite of a declining economic position. The reason was the conflict over Cyprus and the Aegean, and the mounting social and political unrest internally, all of which required a strong military position.

The U.S. Military Assistance Programme

Turkey has been a vital member of N.A.T.O.'s southern flank since 1952. It is the only country within N.A.T.O., apart from Norway, to share a border with the U.S.S.R., and Turkey also has a common border with Bulgaria, another member of the Warsaw Pact. Turkey's position at the Eastern end of the Mediterranean where it controls the crucial Turkish Straits means that it can regulate the flow of Soviet naval forces between the Aegean and Black Seas. Turkey controls strategically vital airspace and until recent years has provided essential intelligence facilities. Turkey also stands at the crossroads between East and West, and North and South and the world's greatest known oil reserves lie near to Turkey. The position of Turkey is so important that it is virtually a firebreak, a fire wall between the Middle East and the Soviet Union.^{25,26}

Within N.A.T.O.'s southern flank the headquarters of the Allied Landforces Southeastern Europe (LANDSOUTHEAST) are situated at Izmir and these forces are responsible for the land defence of Greece and Turkey. In the event of war breaking out with the Soviet Union on the southern flank LANDSOUTHEAST would be the main N.A.T.O. defensive force. Turkey's contribution to LANDSOUTHEAST is considerable, since the command consists of three Turkish Armies together with the N.A.T.O.

Allied Tactical Air Forces, both staffed by Turkish, British, Italian and American personnel. STRIKFORSOUTH, which is the M.A.T.O. title for the U.S. Sixth Fleet, has its headquarters afloat, but is also dependent on Turkey for rest facilities.²⁷

After the Second World War Britain had taken responsibility for supplying Greece and Turkey with military and economic aid. The assistance to Turkey was to help maintain the large army that was required to counter Soviet threats, but Turkey was very poor and the modernisation of the army demanded resources that neither Britain nor Turkey possessed. In February 1947 Britain informed the U.S.A. that it could no longer maintain its support for Greece and Turkey and this prompted the U.S. government to step in and fill the gap. Greece was, perhaps, seen as the greatest and most urgent problem, because of the 'danger' of Communist takeover,²⁸ but Turkey too was under threat from Soviet expansion, and even though the Turkish army still contained more than five hundred thousand men it "was still (in 1948) horse-drawn, equipped with World War One weapons, ill-trained, poorly fed and inadequately clothed." (Lerner and Robinson, 1960).²⁹ Because of the continued Soviet threat, Turkey was ready to accept assistance from the U.S. under what became known as the Truman Doctrine. In President Truman's Message to Congress, March 12, 1947 the dangers of Communism were spelt out. It was

made clear that the U.S. on behalf of the West must take immediate action to support Greece and Turkey in their fight against internal revolution and external threat.

"I believe that we must assist free peoples to work out their own destinies in their own ways... Should we fail to aid Greece and Turkey in this fateful hour the effect will be far reaching to the West as well as the East."³⁰

At the same time as President Truman gave his message to Congress he asked for \$400 million for the period ending 30 June 1948 for Greece and Turkey (of which \$100 million was for Turkey), and for authorisation to send selected U.S. personnel to those countries, and to provide Greek and Turkish personnel with military training. The Bill, which became known as Public Law 75, was approved by the House on 22 May 1947 and it began to be implemented immediately. Between May and July 1947 the Pentagon completed a preliminary survey of Turkey's military needs but before an aid mission could be sent to Turkey it was necessary for the Turkish Assembly to ratify an aid agreement. There was some dissent over certain aspects of the agreement that Washington presented to Turkey. The Americans wanted to ensure there would be free access for U.S. officials and journalists to observe the aid programme, the right to supervise it, the right to restrict the use of U.S. assistance and "to terminate the programme

if recipient governments failed to carry out their assurances."³¹ In the face of Turkish opposition the U.S. government agreed to change some of the details of the agreement, but the essential content remained unchanged and ensured U.S. leverage in Turkey.

With the agreement signed the aid programme got underway. The major short run objective was to modernise the Turkish army which possessed obsolete equipment. The U.S. took on the responsibility of providing all the equipment required by the Turkish army, including vehicles, communications systems, artillery, machine guns and small arms, much of which was surplus to American needs.³² Later on during the 1950s the Turkish air force was equipped with Sabre jets, F-5s and F-104 supersonic aircraft and helicopters.³³ By 1959 Turkey had acquired long range surface to air missiles³⁴ and the navy had been loaned submarines and destroyers.³⁵ However, much of the early equipment received by the Turkish army was misused because of lack of training, and as a consequence was breaking down. By early 1950 almost a half of the trucks acquired by the Turkish army were non-operational and the main reason was that they had not been properly maintained.³⁶

The American response which was adopted for all the major military aid programmes - Greece, Turkey, Iran, Pakistan - was to send a fully staffed Military Assistance Advisory Group or Mission (M.A.A.G.) which

had the job of providing essential instruction in the use and maintenance of equipment. One of the major functions of the M.A.A.G. was to administer the American military grant aid programme which was vital to maintaining U.S. influence and control, although in later years the M.A.A.G.s also became an essential tool in the U.S. military sales drive.³⁷ Although much of the training provided by the U.S. missions was of a technical nature they also furnished Turkish officers with "a rudimentary general education" which had the "advantage of permitting a maximum exposure to U.S. and Western values and ways of thinking and acting."³⁸ Most of the training provided by the Americans was performed in Turkey by skilled military and civilian personnel assigned to the military missions. In October 1948 there were 374 American military and civilian personnel serving in the military mission, and this had increased to 1364 by April 1952,³⁹ whereafter it declined to reach 602 in 1965.⁴⁰

By 1951 25,000 officers and men had been trained by the U.S. military mission in the use of equipment,⁴¹ but a much smaller number than this (2,200 by June 1952) were trained in specific skills as drivers, machine operators and mechanics,⁴² and even at the peak of the training programme only 21 American specialists were employed in teaching Turkish workers. A number of Turks also received military training in the U.S.A. Up to June 1952 62 Turks were, or had received such,

training. Each trainee remained in the U.S.A. for six to twelve months but the Turkish government paid the costs of the training as well as the salaries of the trainees and their transportation costs, while the U.S. government merely paid the trainees' living expenses in the U.S.A. Although the U.S. continued to provide instruction for Turkish personnel in the use and maintenance of equipment throughout the 1950s and 1960s it was on a much smaller scale than in the early years, and averaged less than a thousand a year between 1950-69.⁴³

Another top priority recognised by the U.S. military mission was the need to construct a network of all-weather highways. The prime concern of the Americans was to build roads that would facilitate the movement of a mechanised army and help to integrate national security, but the programme was also justified on economic grounds in that it would open up to trade parts of the country that were formerly inaccessible. It may have been that Turkey neglected to build all-weather roads earlier, especially in the Eastern provinces, because of the fear that they might be used by other countries as invasion routes, but the U.S. military mission regarded them as essential to the defence of the Southern flank of Europe.⁴⁴ The highway programme was initiated as part of the Military Assistance Programme (M.A.P.). An agreement was reached between the U.S. Public Roads Administration

and the Turkish General Staff whereby the former would supervise a road building programme and train a number of Turkish army personnel to operate and maintain road construction machinery.

The highway programme resulted not only in the construction of a new system of primary roads, on which the main effort was concentrated, but also a network of secondary roads throughout the Turkish countryside. In 1950 there were 15,000 miles of primary roads which had been increased to 27,000 miles by 1962.⁴⁵ Although the road building programme had its origins in the M.A.P. it was mainly carried out by the Turkish civilian Highway Administration. U.S. aid in the form of materials, equipment and supplies provided \$32,156,000 towards Turkish road development between late 1947 and March 1953 but during the same period Turkey had spent the equivalent of \$177,000,000, drawn from domestic resources.⁴⁶

Closely related to the road programme was the naval programme which resulted in the establishment of port facilities on the Mediterranean coast. By 1954 four major new ports were in operation which were vital for the operation of the American Sixth Fleet, although this programme also satisfied economic as well as military objectives.

Total U.S. military assistance for Turkey in the period 1948-60 was substantial and averaged about 67

per cent of Turkish domestic military expenditure, with a minimum of 21.9 per cent in 1950 and a maximum of over 110 per cent in 1957 and 1958, which was the high point in U.S. military aid to the forward defence areas. The details of U.S. military assistance to Turkey are given in Table 6.3, but there must be some uncertainty over the validity of the figures presented.⁴⁷ Lerner and Robinson⁴⁸ quote a figure of \$2 billion of U.S. military assistance received by Turkey up to 1959, and other estimates have been even higher.⁴⁹

In the period 1948 to 1960 most of the military aid that Turkey received from the U.S. through the Military Assistance Programme was in the form of a grant requiring no Turkish repayments. The U.S. M.A.P. was designed to meet the needs of the forward defence areas, and as Table 6.4 shows, during the 1950s only a small proportion, of all U.S. arms transfers were in the form of foreign sales, the vast proportion being in the form of grants. By the Mutual Security Act of 1954 control of U.S. arms sales lay with the President, and it was he who would determine what constituted 'implements of war'. Up to 1961, and the Foreign Assistance Act of that year, over 90 per cent of U.S. arms transfers to the rest of the world were as military grants.

From 1961 to 1968 U.S. military grant aid declined

TABLE 6.3

U.S. Military and Economic Assistance to
Turkey, 1948-60, in \$ million at current prices

<u>Year</u>	<u>Military Assistance</u>	<u>Economic Assistance</u>	<u>Military Ass. as % of Turkish Dom. Military Exp^{re}</u>
1948	72.0	50.0	38.3
1949	55.0	5.2	27.9
1950	46.5	48.7	21.9
1951	58.5	35.2	25.3
1952	145.0	86.3	72.6
1953	174.1	54.2	95.8
1954	219.9	41.9	93.1
1955	164.9	86.1	88.6
1956	170.9	115.1	94.0
1957	208.1	179.0	110.1
1958	251.1	112.6	111.6
1959	125.1	167.1	67.2
1960	86.9	103.3	32.9
Total	1777.9	1084.7	

Source: I.M.F., Balance of Payments Yearbook, Turkey Sheets, October 1954; also Department of Defence, Military Assistance Facts, Washington, 1963, pp. 30-31. Quoted in F.C. Shorter, op. cit. pp. 38-39. Agency for International Development, U.S. Economic Assistance Programmes, 1948-69, Washington, 1970.

TABLE 6.4

U.S. Arms Transfer Agreements, 1950-78, in
\$/ million, current prices

	<u>1950s</u>	<u>1960s</u>	<u>1970-73</u>	<u>1974-78</u>
Grants	2,213,877	1,080,855	3,159,863	686,529
Sales				
F.M.S.				
Agreements	162,371	1,010,749	2,523,730	12,509,100
Commercial				
Exports	-	-	405,029	1,016,552
Total				
Current	2,376,248	2,091,604	6,088,622	14,121,181
Total				
Constant				
(1978 constant				
dollars)	6,137,887	5,292,785	9,769,081	16,399,333

Source: Report of the Comptroller General of the United States, 1D-79-22 (U.S. Government Accounting Office, Washington D.C., 21 May 1979), appendix 1.
 Quoted in S.I.P.R.I. 1980 Yearbook, p.67.

rapidly and arms sales rose in direct proportion, as is shown in Table 6.4. In 1968 there was an American attempt to control the sales of arms through the Foreign Military Sales (F.M.S.) Act, which formally separated sales from grant aid. The immediate reason for this legislation was to reduce the U.S. defence burden abroad, for, as Smith (1978)⁵⁰ explains, "foreign military sales will allow substituting for what in many cases might otherwise be a vastly more expensive direct military presence." As the M.A.P. declined in importance after 1968 the U.S. introduced F.M.S. credits which went through the same funding procedure as M.A.P. and were designed to bridge the gap with F.M.S. cash sales. The credits granted by the U.S. were guaranteed by the U.S. Department of Defence from its appropriated funds, while the finance came mainly from the Federal Financing Bank. In order to control the level of F.M.S. credits restrictions were introduced and every purchaser had to enter into an agreement which set out what was to be purchased, the terms, the interest rate and the repayment schedule.

In spite of the decline in the M.A.P. after 1961 Turkey, along with a handful of other countries (including Greece and Israel) continued to receive military grant aid throughout the 1960s right up until the arms embargo that followed the invasion of Cyprus. Furthermore, the permanent U.S. M.A.A.G. in Turkey ensured that Turkish military procurement was consistent

with U.S. policy. It was the responsibility of each M.A.A.G. to "assist the foreign government in making its decisions, dissuading it from those that constitute an unwise allocation of resources or that otherwise do not contribute effectively to the achievement of U.S. objectives."⁵¹ As Table 6.5 shows U.S. military assistance after 1961 was considerably less than it had been in the 1950s and apart from the immediate years following the 1960 military coup represented a declining proportion of domestic military expenditure, but most of the assistance continued to be in the form of grant aid. Even in 1973 the last 'normal' year before the Turkish invasion of Cyprus and the arms embargo, grant aid dominated U.S. military assistance to Turkey, as Table 6.6 indicates.

The decision by the U.S. Congress to stop all military aid to Turkey put an end to the M.A.P. but a partial lifting of the ban gave Turkey \$125 million of military credit in 1975-76 and the same in 1976-77, with \$175 million in 1977-78. These credit limits were considerably below the \$340 million per year that would have been available from various sources if the four-year defence co-operation agreement signed in March 1974 had been approved by the U.S. Congress. Moreover, the limit on credit and sales meant that Turkey had to pay more for its military equipment than otherwise, and the credits granted by the U.S. were soon swallowed up by 40 Phantom jet fighter bombers purchased at an

TABLE 6.5

U.S. Military and Economic Assistance
to Turkey, selected years, 1961-73,
in U.S. \$ million at current prices

	<u>Military</u> <u>Assistance</u>	<u>Economic</u> <u>Assistance</u>	<u>Military Ass. as</u> <u>% of Turkish Dom.</u> <u>Military Exp^{re}</u>
1961	131	126	43.7
1962	172	188	52.3
1963	155	237	44.5
1968	122	110	21.4
1973	149	71	17.7

Source: As for Table 6.3, also U.S. Economic Assistance Programmes, 1976 A.I.D., Washington, D.C.

TABLE 6.6

U.S. Military and Economic Assistance
to Turkey in 1973 in U.S. \$ million

Military Assistance Grants	85.6
Foreign Military Credit Sales	15.0
Excess Defence Articles	40.0
Ship Loans	5.1
Total Military	148.7

A.I.D. Economic Assistance	43.0
Narcotics Control	15.0
P.L. 480	13.0
Total Economic	71.0
Total Military and Economic	219.7

Source: S. Weissman, op. cit., pp. 246-7

estimated cost of \$480 million.⁵²

The arms embargo hit Turkey very hard because she was almost totally dependent on the U.S. for her arms yet was put in the position of having only restricted access to U.S. arms and military spares even on a cash basis. In response to the embargo Turkey turned to her other N.A.T.O. partners - Britain, France, W. Germany, Italy and Norway - to obtain necessary arms. In spite of Turkey's serious balance of payments problems, which caused both I.M.F. and N.A.T.O. officials to express concern towards the end of 1977, the country was spending more on defence than the economy could bear. The estimate for military expenditure for 1977-78 was \$2.63 billion, which represented nearly 30 per cent of the budget, and Turkey was also paying \$500 million each year on acquiring arms. As the tension over Cyprus and the Aegean dispute increased after 1974 Turkey was

compelled to continue buying heavily from abroad. Of the other N.A.T.O. countries only West Germany provided any military assistance, about \$100 million a year, partly through its official military aid programme and partly through guaranteeing credits on arms exports to Turkey. But the Turkish economy in the second half of the 1970s was in a serious condition and guarantees were very difficult to find so that some of the arms that Turkey wished to import, like 180 Leopard tanks, had to be postponed.⁵³

The U.S. arms embargo was not finally lifted until August 1978, but the increased military aid that began to flow from that time could not prevent the Turkish economic and political situation from further deteriorating. On 29 March 1980 the U.S. signed a five year defence agreement with Turkey which provided a first instalment of \$250 million assistance. In addition West Germany was planning in 1980 a military aid package worth \$500 million. The Bonn agreement was to transfer to Turkey a large number of F-104 fighters and ground attack aircraft which would be surplus to Germany's needs when its own air force received more advanced fighters. West Germany also pledged to supply over 200 Leopard tanks to replace some of the ageing American built M-47s and M-48s that were still the basis of the Turkish armoured forces. Several years of arms embargo had left large numbers of the American tanks inoperable

and the West Germans also pledged spare parts to restore them. Turkey was also particularly keen to receive spare parts from the U.S. to revive 93 F-4 Phantoms which were considered superior to the F-104 Starfighters.⁵⁴

The Economic Consequences of the Transfer of Arms

Up until 1961 almost the whole of the arms transfers received by Turkey were through the U.S. M.A.P. and did not affect the import capacity of the country directly to any great extent. In this period, up to 1961, the consequences of the arms transfers for the Turkish economy were felt through the conditions that were attached to the military agreement between Turkey and the U.S.A. After the Second World War the U.S. used its foreign military policy to maintain its hegemonic position in the world. Turkey was encouraged, indeed required, to commit a very large proportion of its domestic resources to the military establishment, partly to meet the needs of N.A.T.O. and the Western Alliance, but also to ensure that the country would develop, both economically and politically, in sympathy with the Western world. The military were assigned a key role in the development process in Turkey and other countries, and a general case was made out by some Western politicians, political scientists and economists that the military being a modern, rational and bureaucratically organised

institution was ideally suited to initiate development, and guide the political system accordingly.⁵⁵

The indirect consequences of the arms transfers were, therefore, that Turkey committed an enormous level of scarce domestic resources to defence and that the pattern of development was structured such that the Turkish economy became integrated into, and dependent on, the economies of the industrialised countries. To understand this latter it is necessary to show a causal link between the arms transfers and the flows of economic assistance and private foreign capital. This is taken up in the next section.

In addition to the indirect effects of arms transfers on the Turkish economy, there were after 1961 more direct effects as military grants began to be replaced by credit sales. During the 1960s and particularly after 1974, when nearly all military imports into Turkey had to be purchased and even credit was difficult to obtain, arms transfers began to place strains on the balance of payments thus reducing the capacity of Turkey to import what was required for the industrialisation effort.

The arms trade accounts for no more than 2 per cent of world commodity trade, yet for Turkey the share of military imports in total imports was as high as 32 per cent in 1969 and was over 15 per cent in 1978 when the economy was in the midst of its worst crisis

in the post-war period. The share of military imports in Turkish trade is presented in Table 6.7, but there is no way of knowing the true level of military imports⁵⁶ since the recorded volume is only part of that flow, so that the strains imposed by them may be even greater than that indicated.

The burden of military imports on the development effort can better be understood by reference to those imports which are essential to Turkish industrialisation. Category number 7 of the Standard International Trade Classification consists of machinery and transport equipment, and these imports represent the contribution of imported technology in total imports.⁵⁷ For the five years considered in Table 6.7 the average proportion of military imports to foreign capital imports was over 48 per cent, and was marginally above that figure in the crisis year of 1978. Since military imports are primarily for military purposes they cannot be expected to contribute to an expansion of productive capacity,⁵⁸ nor do they increase present or future consumption, therefore they represent a reduction in the potential rate of industrialisation.⁵⁹

In addition to the volume of military imports it is also important to consider the form that they take. During the 1950s most of the arms transferred to Turkey were in general surplus or obsolete types, and a large part were second hand and in the process

TABLE 6.7

The Share of Military Imports
in Turkish Trade, 1965-78

<u>Year</u>	<u>Total Imports CIF in U.S.\$m.</u>	<u>Imports of SITC no.7¹ in U.S.\$m.</u>	<u>Military Imports in U.S.\$m.</u>	<u>Military Imports as % of total imports</u>	<u>Military Imports as % of SITC no.7</u>
1965	572	214	83	14.5	38.7
1969	747	301	241	32.5	80.1
1972	1508	677	327	21.7	48.3
1973	2099	864	205	9.8	23.7
1978	4479	1372	677 ²	15.1	49.3

Notes: 1 SITC no. 7 = Machinery, Transport Equipment

2 1978 data was given by S.I.P.R.I. in 1975, U.S. \$m. prices, and an estimate was obtained for current prices by assuming an annual inflation rate of 10 per cent

Source: 1965-73, United Nations, Commodity Trade Statistics, Statistical Papers, Series D; U.S. Arms Control and Disarmament Agency, World Military Expenditure and Arms Transfers, 1964-73, Washington D.C. 1974. Quoted by Lock and Wulf, op. cit. 1978, U.N. Yearbook of International Trade Statistics, 1979; S.I.P.R.I., 1980 Yearbook.

of being replaced by the U.S.A. On the whole these arms were single weapons requiring little more in the way of spares, support equipment and service. But the predominant pattern of militarisation in L.D.C.s has been based on the structure found in the more developed countries. Since the 1970s the armed forces of Turkey have increasingly been based on the complex technologically sophisticated 'weapon system' - the main battle tank, the capital ship and the combat aircraft. These systems could only be imported, but once the decision had been taken there was a commitment to a lot more. A squadron of modern combat aircraft can require the support of several hundred diversely skilled people and the availability of hundreds or even thousands of components if it is to operate at anything like its potential effectiveness.⁶⁰ What this has meant is that Turkey has been required to make large additional investments in the training and education of operators, maintenance personnel and technical staff, and to call in outside aid in the form of technical and military advisors, as well as providing a special infrastructure, and all of this to be included on the debit side. In so far as there are civilian spin-offs from military investment the opportunity cost is reduced, but it is by no means certain that military skills and capital will have positive external effects, nor is it necessarily a cost effective way of promoting development objectives.

Detailed information on the chain of supplementary domestic and import demand set up by arms imports is not available, but some of the additional costs can be illustrated. In the early 1970s the Turkish Air Force possessed mainly F-104, F-100, F-84 and F-86 aircraft,⁶¹ and for every hour that one of these 'planes spent flying the maintenance and operating costs alone amounted to \$250, but in addition 30 man-hours were necessary for repair, and each aircraft needed four men for operational maintenance. To provide a field organisation, with all the necessary service and support, 50 more men were required per aircraft. On top of this it took about 3 years to train an aircraft mechanic with a good educational background at a cost of \$50,000, excluding upkeep.⁶² By the late 1970s the Turkish Air Force included two squadrons with F-4 Phantoms, and these aircraft require an inventory of 70,000 spare parts to keep a squadron operational.⁶³ Given the rate of technological development a present generation of fighter aircraft possesses a life cycle of about 15 years, and over that period the cost of ownership, like depot costs, management personnel, maintenance and operations, and training are greater than the acquisition cost.⁶⁴

Most of the ownership costs of imported armaments are for capital-intensive technologies which in the case of Turkey need to be imported, and in the 1970s, especially after the arms embargo, they became a

direct drain on the balance of payments. Although there is no information on the sources or composition of Turkey's external debt and the corresponding debt service problem so as to determine the military component, what is clear is that after 1975 military imports had to be purchased. With military credit difficult to obtain, terms were close to those available on other commercial transactions, which meant that all military imports began to absorb import capacity and to exacerbate the debt servicing problem. Making a very crude estimate, using the arms imports details in S.I.P.R.I. Yearbooks,⁶⁶ it would appear that military imports of at least \$3,300 million were absorbed by Turkey between 1975 and 1979.

The enormous level of arms imports after 1975 should be considered in relation to the severity of the crisis facing Turkey in 1979. Unemployment stood at over 20 per cent, external debt was in excess of \$15 billion, much of it short-term, and Turkey was finding it impossible to service this debt. Even after the debt restructuring arrangements that were promised by the I.M.F. and O.E.C.D. countries during 1979, Turkey was still faced by the prospect of needing perhaps \$15 billion of new aid in the following five years to prevent economic collapse.⁶⁷ Furthermore, Turkey was faced by the fact that the whole of her export earnings would be required to service its external debt and pay for oil imports alone. In this

context the arms imports after 1974 would appear to have seriously increased Turkey's economic problems. Not only did the military imports fail to increase productive capacity or to increase the efficiency of Turkish industry, but they imposed a future debt burden on the country. Moreover, the importation of major arms would be expected to generate imports of supplementary needs, so that the military import burden would be carried through to future time periods. Over the longer run it could be argued that the priority given to military imports resulted in a distortion in the allocation of foreign resources and may have reduced the rate of development. But the distortion does not end there, since, as the U.N. Report of 1971 recognised, military considerations have also distorted the direction of international economic aid, which tends to follow the pattern of military aid and greatly influences the form and direction of development.

Economic Assistance

The Truman Doctrine was designed to help Turkey and Greece to resist the Communist threat, and it was followed by a programme intended to assist Europe to achieve economic rehabilitation. In a speech delivered at Harvard on 5 June 1947 Secretary Marshall described how vital it was for the U.S. to provide Europe with economic aid, which became known as the Marshall Plan. Nine months later on 3 April 1948 the Economic Recovery

Act was passed in the U.S. which provided economic aid for Turkey, and Greece, as well as for Western Europe. Apart from the short-run objectives of maintaining the socio-political status quo, of achieving rights over certain military bases and installations, of gaining the support of Turkey in international organisations like the United Nations, of supporting leaders or governments that have been friendly to U.S. interests, there was also the long-run objective of promoting in Turkey a type of economic and political development which was harmonious with capitalism.⁶⁸

The economic assistance programme for Turkey began in 1948 as part of the European Recovery Programme. As Table 6.3 shows economic aid up to 1960 exceeded \$1 billion, and was made up of transfers of merchandise and technical assistance services, as well as agricultural products under Public Law 480.

Hovey (1965)⁶⁹ has stressed that there is a complementary relationship between economic and military assistance. "Economic assistance can provide the wherewithal for military assistance recipients to pay troops, and purchase supplies." U.S. military assistance, Hovey explains, was given to provide arms and equipment supplied, of course, by the U.S., but it was not designed to pay for troops or food consumed by the military, since these were regarded as the responsibility of the recipient government. The relationship between

economic and military aid is clear. "Military assistance pays for the costs of equipment, supplies and training, and economic aid provides the budgetary support necessary for local purchases and pay and allowances of foreign forces."⁷⁰

Between 1949 and 1971 the U.S. gave over \$2.5 billion to Turkey in economic assistance,⁷¹ with over three quarters of the funds being administered through the Agency for International Development (A.I.D.) and predecessor agencies, and the remainder under P.L. 480. The details are given in Table 6.8. Approximately 82 per cent of A.I.D. economic aid between 1949 and 1962 was in grant form, but from 1963 loans became more important as they replaced grants for general imports. Under the terms of the grant programme Turkey was required to deposit into a 'Special U.S. Counterpart Fund' Turkish lira at the official rate of exchange for each dollar of grant aid provided by the U.S. for general commodity imports. Ninety per cent of these deposits (95 per cent prior to 1952) were made available to the Turkish government for mutually agreed projects, and ten per cent to the U.S. government to meet administrative and other costs in Turkey.⁷² Up to 1962 about 80 per cent of the 'Counterpart Funds' were used within the Turkish national defence sector, in the form of additional military programmes, although from 1963 the funds were on a much smaller scale and were used for general budgetary support or to finance

TABLE 6.8

U.S. Economic Assistance to Turkey,
1949-71 in \$m.

<u>Year</u> ²	<u>Total U.S.</u>	<u>A.I.D.¹ and Predecessor</u>		<u>P.L. 480</u>	
	<u>Economic</u>	<u>Agencies</u>		<u>Agricultural</u>	
	<u>Aid</u>	<u>Total</u>	<u>Loans</u>	<u>Grants</u>	<u>Aid</u>
1949	5.2	5.2	5.2	-	-
1950	48.7	48.7	40.0	8.7	-
1951	35.2	35.2	20.0	15.2	-
1952	86.3	86.3	15.3	71.0	-
1953	54.2	54.2	4.5	49.7	-
1954	41.9	41.9	-	41.9	-
1955	86.1	59.8	-	59.8	26.3
1956	115.4	87.8	20.0	67.8	27.6
1957	179.0	109.3	25.0	84.3	69.7
1958	112.6	63.7	25.0	38.7	48.9
1959	167.1	131.9	-	131.9	35.2
1960	103.3	68.7	0.8	67.9	34.6
1961	126.0	100.3	1.5	98.8	25.7
1962	188.1	104.9	22.8	82.1	83.2
1963	237.3	155.8	86.2	69.6	81.5
1964	148.8	99.0	64.5	34.5	49.8
1965	152.9	113.3	103.6	9.7	39.6
1966	126.6	112.8	108.1	4.7	13.8
1967	132.2	110.3	106.8	3.5	21.9
1968	110.2	101.6	96.9	4.7	8.6
1969	109.5	88.6	85.1	3.5	30.3
1970	106.9	69.2	65.9	3.3	50.7
1971	106.9	77.6	73.9	3.7	33.8
TOTAL	2512.0	1926.1	971.1	955.0	481.2

Notes: 1 A.I.D. is the Agency for International Development.

2 U.S. Fiscal Years, ending 30 June of indicated years.

development projects both in the public and private sectors. Details on the utilization of Counterpart Funds are given in Table 6.9, and confirm that up until 1962 U.S. economic aid was largely used to release Turkish domestic resources which could then be put into defence.

As was pointed out above, after 1963 loans came to replace grants for general imports. Between 1963-71 total A.I.D. economic assistance amounted to \$928.2 million of which \$791 million was in loan form, amounting to 85 per cent of the total. Direct U.S. economic assistance was supplemented by pledges of over \$2 billion between 1963 and 1970,⁷³ and a further \$1.3 billion between 1970 and 1975⁷⁴ by the American-West European Economic Consortium. This level of economic aid meant that Turkey ranked sixth among the major recipients of economic assistance during the 1960s, and created a dependency on external financing which continued into the 1970s.

The conditions attached to the U.S. loans depended on whether they had to be repaid in dollars or Turkish lira. About 20 per cent of the loans were repayable in Turkish lira and interest rates charged ranged from $3\frac{1}{2}$ to $5\frac{3}{4}$ per cent. The remainder of the loans (80 per cent) were repayable in dollars and carried a ten year grace period, thirty year amortization thereafter, with interest rates of $\frac{3}{4}$ to

TABLE 6.9

Utilization of Counterpart Funds
As of December 31, 1971 (TL Thousand)

<u>Description</u>	<u>Amount of</u> <u>Agreement</u>	<u>Agreement</u>		<u>Amount</u> <u>Disbursed</u>
		<u>No.</u>	<u>Date</u>	
1. National Defence Sector				
1. Mechanical & Chemical Industries	5,500	20	10/18/51	5,500
2. Petty Officer Program	10,640	22	12/20/51	10,640
3. Additional Military Aid Program	72,884	23	12/28/51	72,884
4. Equivalent of Certain Military Expenses of the Fiscal Year 1951	80,000	25	12/28/51	80,000
5. Additional Military Program of 1952	100,000	26	8/5/52	100,000
6. Additional Military Program of 1953	111,400	32	8/5/53	111,400
7. Additional Military Program of 1954	115,920	33	11/9/54	115,920
8. Additional Military Program of 1955	108,600	34	12/29/55	108,600
9. Additional Military Program of 1956	91,520	35	8/10/56	91,520
10. Additional Military Program of 1957	104,797	38	9/30/57	104,797
11. Additional Military Program of 1958	170,000	39	9/25/58	170,000
12.. Army Education Program	43,000	41	1/20/59	43,000
13. Aid for 1959 Fiscal Year	110,000	42	6/21/59	110,000

14.	Additional Military Program of 1959	240,000	42	9/18/59	240,000
15.	Additional Military Program of 1959	280,000	42	12/19/59	280,000
16.	Additional Military Program of 1960	500,000	46	7/4/60	500,000
17.	Additional Military Program of 1961	363,300	54	7/29/61	363,300
18.	Additional Military Program of 1962	449,647	57	6/30/62	449,647
19.	Budgetary Support (POL)	68,000	64	5/30/63	68,000
	Total	3,025,208			3,025,208

II. Public Sector

1.	Agricultural Bank	15,339	1	10/22/50	15,339
2.	Public Roads and Water Works	56,997	2,6,28	Various	56,997
3.	Technical Co-operation	173,977	3,9,37	Annual	173,977
4.	Agricultural Census	1,000	14	7/20/51	1,000
5.	Tuzla Roads	404	15	7/20/51	404
6.	Immigrants	30,000	19	8/10/51	30,000
7.	Etibank	42,352	8,17	Various	42,352
8.	Ministry of Agriculture	34,300	21	12/20/51	34,300
9.	Ankara Hospital & Nurses Training Centre	1,000	24	12/20/51	1,000
10.	Railways	3,864	27	2/27/53	3,864
11.	Minerals Research & Exploration Inst.	1,000	29	5/15/53	1,000
12.	Moody Program-Productivity Project	2,520	-	6/25/53	2,520
13.	Earthquake Relief	4,000	30	7/7/53	4,000
14.	Statistics	1,000	31	8/5/53	1,000

15.	State Enterprises	259,866	43	Various	259,866
16.	Projects in Support of TC Activities	176,574	44	3/26/60	176,574
17.	General Budgetary Support	120,000	58	7/13/62	120,000
18.	General Budgetary Support	150,000	60	2/21/63	150,000
19.	General Budgetary Support	388,000	64	5/30/63	388,000
20.	1963 Development Grant Support Project Program	5,569	66	8/7/63	5,569
21.	Projects in Support of TC Activities	2,150	67	9/6/64	2,150
22.	Technical Assistance	40,953	-	3/5/69	40,953
Total		1,510,865			1,510,865

III. Private Sector

1.	Private Enterprise Projects Financed prior to Establishment of Industrial Development Bank	17,867	Various	Various	17,867
2.	Marshall Plan Private Enterprise of IDB	81,633	18	5/15/63	81,633
3.	Capital Participation Fund (IDB)	65,000	50	5/6/62	65,000
4.	Special Working Capital Fund	60,000	OSWCF	4/18/61	60,000
5.	Tourism Development	40,000	68	8/16/67	40,000
6.	Industrial Development Bank	20,000	76	7/17/67	20,000
7.	Industrial Investment & Credit Bank	37,000	78	12/15/67	37,000

2 per cent during the ten year grace period and 2 to 3 per cent thereafter.⁷⁵ On the surface the terms of the loans were very generous, but they were a form of 'tied aid' as indeed was the grant aid and it is by no means obvious that this economic assistance contributed very much to Turkish development.

Tied Aid

U.S. economic and military aid to the less developed world, including Turkey, was almost completely tied to goods produced in the U.S.A. Snider (1972)⁷⁶ recognised this when in discussing ways of relieving the U.S. balance of payments he eliminated two possible measures. "Because aid recipients tend to spend most of their grant and loan dollars directly on U.S. exports, reinforced by the government policy of tied aid, only a fraction of any reduction in aid would be reflected in improvement in the U.S. balance of payments."

This view is also supported by Gaud (1968)⁷⁷ who argues:

"The biggest single misconception about the foreign aid programme, is that we spend money abroad. We don't. Foreign aid consists of American equipment, raw materials, expert services, and food - all providing for specific development projects which we ourselves review and approve... Ninety-three per cent of A.I.D. funds are spent directly in the United States to pay for these things."

Cooper (1972)⁷⁸ comes to a similar conclusion and his empirical results indicate an average additionality for the entire aid programme of 90 per cent, and for many countries the additionality factor is in excess of 100 per cent. These results indicate that the tying of aid is considerably more effective than is generally recognised. There can be little doubt that the American aid programme has been good for U.S. business and has created many jobs, nevertheless it did not prevent a decline in the U.S. share of Turkish imports. In 1950 the U.S. accounted for over 20 per cent of Turkish imports but this had declined to 8.5 per cent by 1976 as West Germany with 18.4 per cent of imports became by far the most important trading partner.

The tying of aid also invariably means that high prices are attached to the commodities involved, particularly when grants are given, which has led Myrdal (1971)⁷⁹ to suggest "an unjustified padding of the amount of aid." U.N.C.T.A.D. in its secretariat progress report of 1967 gave instances of 'tied' aid costing between 12 and 20 per cent more.⁸⁰ Food aid was a particular kind of tied aid that was provided by the U.S. under Public Law 480, and this was counted at the prices found on the protected home market in the United States, rather than at the lower prices at which it could be bought on the international market.⁸¹ The U.S. grain shipments to Turkey and elsewhere were

influenced by the huge American grain surpluses that existed because of the agricultural support policy. Furthermore, this expensive food was transported to Turkey in high cost American ships which was then charged to the aid-receiving country. Given the obvious benefits of food aid to the U.S. itself Myrdal was led to suggest that the cost of the food deliveries should have been charged as national agricultural aid instead of as foreign aid. He went on to question the value of aid, in particular food aid, for the receiving country.

"The most important reason for discounting the development value of the aid was, of course, the fact that the motivation for it, and largely its direction, was political, military and strategic. When politics goes into aid whether at home or abroad, it is unavoidable that standards both of morality and of effectiveness are apt to be radically lowered."

The contribution of food aid to economic development has received some attention and has been criticised for depressing agricultural prices, which then causes the domestic supply to be reduced.⁸² U.S. shipments of agricultural commodities to Turkey under P.L. 480 began in 1954. Most of the food received (over 85 per cent) was under Title I agreements, whereby the U.S. sold surplus agricultural commodities, mainly wheat and other grains, in exchange for local currency. There were also shipments under Title II which were commodities

granted for emergency relief and development purposes, and under Title III which provided for the donation of surplus foods to U.S. voluntary agencies for distribution in Turkey. As Table 6.10 shows the first food aid arrived in 1954 when there was a disastrous harvest in Turkey due to drought. There was a similar flow of food aid in 1955 when agricultural production was still below the 1953 level, but after that there was no obvious link between the level of food aid and domestic production. Thus in 1964 and 1965 when agricultural production fell, so did the level of food aid, and when in 1966 agricultural production increased by over 10 per cent, the level of food aid increased substantially. Then again the bad harvest of 1961 resulted in a large increase in food aid, but when agricultural production recovered the following year, food aid continued at a high level.

Between 1954-59 when wholesale and retail prices in Turkey doubled, the rise in food prices lagged behind the general rise in prices. This was in part due to the substantial imports of food under P.L. 480,⁸³ but also due to government controls on prices of some basic foodstuffs, especially grain products. As the prices received by Turkish farmers in the period 1954-59 increased at about the same rate as consumer prices of food, then farm prices as a whole and grain prices in particular, did not keep up with the rise in the general price level, which is shown in Table 6.10. After 1959

TABLE 6.10

Flow of U.S. Food aid under P.L. 480
and related variables, 1955-70

<u>Year</u>	<u>Food aid</u> <u>\$ million</u> <u>current prices</u>	<u>Growth of</u> <u>Agric¹ Prod.</u> <u>at constant</u> <u>1968 prices</u> <u>% change</u>	<u>Wholesale price index:</u> <u>1953= 100</u>	
			<u>General</u>	<u>Grains</u>
1954	26.3	-13.9	111	n.a.
1955	27.6	9.8	119	n.a.
1956	69.7	5.0	139	n.a.
1957	48.9	6.5	165	n.a.
1958	35.2	9.2	190	150
1959	34.6	0.3	227	177
1960	25.7	2.3	239	202
1961	83.2	-4.9	246	242
1962	81.5	5.0	260	270
1963	49.8	9.0	271	268
1964	39.6	-0.4	269	265
1965	13.8	-3.9	293	297
1966	21.9	10.7	306	304
1967	8.6	0.1	322	294
1968	30.3	1.5	n.a.	n.a.
1969	40.7	1.2	n.a.	n.a.
1970	33.8	2.3	n.a.	n.a.

Sources: As for Table 6.8; Turkey: An Economic Survey, 1977, op. cit. Table 39; O.E.C.D. Agricultural Development in Southern Europe, Paris, 1969, p. 299.

government policy ensured that food prices increased in line with the general price index, but this change in policy did nothing to stimulate grain production, the main import under P.L. 480, and indeed in the first ten years of P.L. 480 grain supplies, grain production in Turkey stagnated, indicating that food aid discouraged domestic production.

The giving of aid has been criticised from other viewpoints. Bauer (1971)⁸⁴ has argued that it is unlikely that aid, whether as a loan or a grant, will automatically generate development. Bauer stressed that aid may encourage L.D.C.s to take the view that development can be achieved without effort, when what is really required is structural and institutional reorganisation and an outlook which emphasises self-reliance. Griffin (1970)⁸⁵ has argued that foreign exchange flows, including aid, may lower domestic savings. "Given the level of income, the larger the capital inflow the lower the level of domestic savings", and the "higher is the ratio of aid to income the smaller will be the rate of domestic savings."

Both of these views need to be considered in a specific historical context. In the case of Turkey in the post-war period there is no doubting the motivation of successive governments, particularly after 1963 when the series of Five Year Plans began, to achieve rapid industrialisation and economic development.

Nevertheless it might be argued that the underlying weakness on the Turkish external account was persistently ignored during the 1950s and 1960s, and indeed up to 1974, since the series of deficits could be made up by foreign credits, worker remittances, import controls, devaluation and U.S. and other economic aid. The ease with which Turkey could finance its trade deficit meant that very little progress was made on breaking the dependence of industry on imported capital goods and industrial raw materials which accounted for 95 per cent of imports in the 1970s. In terms of Bauer's general analysis, there was no incentive for Turkey to increase its self-sufficiency, partly because of the 'generosity' of aid donors. The danger of this dependency was revealed after 1974 when the invasion of Cyprus led to an increased military burden and the U.S. arms and aid embargo, oil prices quadrupled, and the economic recession in the West caused worker remittances to decline.

Griffin's position has been criticised on methodological, theoretical and empirical grounds.⁸⁶ Kennedy and Thirwall (1971)⁸⁷ and Papanek (1972)⁸⁸ have argued that rather than aid causing a decline in savings, as Griffin found, it may be the reverse. Papanek gives a hypothetical example of a crop failure or a decline in export prices leading to a fall in the savings rate as consumption levels are maintained, which is accompanied by an inflow of aid. Although

Papanek's example is quite plausible it cannot be taken as generally accurate without considering the case of each country separately, and furthermore, the causality of any negative relationship between the savings rate and aid or capital flows needs to be established.

What cannot be accepted is that aid and capital inflows will inevitably increase savings and/or investment directly, since a large part of the flow of aid into Turkey and elsewhere was for military purposes, and smaller portions for health, medicine and education. If savings and/or investment were to respond positively to aid flows it would be the result of part of the aid going directly into investment projects or through the indirect effect of aid releasing domestic resources which could then go into saving and investment.

As was pointed out previously the vast proportion of the 'counterpart' funds were used to increase the military effort in the period up to 1962. A.I.D. loans only started to go into capital projects in 1960 and by 1971 had accounted for only about 15 per cent of total economic assistance. Similarly the local currency payments made under P.L. 480 between 1955 and 1971 were distributed as follows:

	<u>per cent</u>	<u>\$ million</u>
Loans to the Government of Turkey	41.1	240.9
Loans to Private Firms in Turkey	11.3	66.3
Grants for Military Budget Support	12.2	71.2
Grants for Economic Development	0.4	2.5
U.S. Purchases in Turkey	33.3	195.2
Initial Payment in \$ to U.S.	1.7	9.8
	<u>100.0</u>	<u>585.9</u>

It is not clear that the funds generated under P.L. 480 contributed to increased savings or investment, although part of them were used to finance the military effort. Military aid itself was tied to imports of U.S. arms and equipment, and rather than releasing domestic resources was only advanced on the condition that the Turkish government committed vast domestic resources to defence, averaging nearly 26 per cent of central government budget in the post-war period, to the detriment of investment and the development effort. The precise relationship between aid and savings can only ultimately be determined by reference to the empirical data, and this is attempted in the next chapter. One further point on this issue concerns the importance of certain kinds of consumption, like education and health, which are stimulated by aid flows, since these can be regarded as investment in human capital⁹⁰ and may be important in the development process.

One of the areas of the economy that it is claimed the economic assistance programme was really successful was in agriculture. In the period 1949 to 1953 Turkish agriculture was stimulated by a mechanisation programme, with 40,000 tractors alone imported in that period, mainly through the U.S. aid programme. The enormous growth of agricultural production in Turkey in this period led President Truman to claim it as an example of the success of the Mutual Security Programme.⁹¹

"Turkey is another example where a veritable agricultural revolution is being brought about with a team of nine American experts.... In three years Turkey has raised its grain production by over 50 per cent and tripled its rice production."

American claims on what they achieved in Turkey were exaggerated. Forty per cent more land was brought into cultivation in the few years up to 1953, mainly communal and state land, through an extended land distribution programme, which largely accounted for the growth in agricultural production. The increasing mechanisation of agriculture in the period 1948 to 1953 still meant only 15 per cent of all cultivated land was under the plough in 1955, and the new level of mechanisation was unable to prevent two disastrous years for agriculture. Between 1955 and 1962 the mechanisation rate in Turkish agriculture remained practically unchanged, and it was not until the Five Year Plans began in 1963 that mechanisation was given further impetus.

Political Effects of Economic and Military Assistance

It is widely recognised today that aid is not given for altruistic reasons, but it is an important weapon of foreign policy for donor countries. In 1961 President Kennedy explained: "foreign aid is a method by which the United States maintains a position of influence and control around the world, and sustains a good many

countries which would definitely collapse or pass into the Communist bloc."⁹² Professor H. B. Chenery, who was an economist with the U.S. A.I.D., makes a similar point: "economic assistance is one of the instruments of foreign policy that is used to prevent political and economic conditions from deteriorating in countries where we value the preservation of the present government."⁹³ Aid programmes grew with the intensification of the Cold War between the West, led by the U.S.A., and the U.S.S.R., and the different geographical patterns of aid at various times reflected the changing importance of certain countries to the struggle for hegemony.⁹⁴

One of the ways that political influence can be maintained is for aid to promote economic development. The U.S. A.I.D. specifically recognises this point when it states: "Aid as an instrument of foreign policy is best adapted to promoting economic development. Development is not an end in itself, but it is a critical element in U.S. policy, for in most countries some progress in economic welfare is essential to the maintenance and growth of free, non-Communist societies."⁹⁵

The role of aid in development has been critically analysed by Hayter (1972)⁹⁶ who argues that an essential element in the giving of aid is the concept of 'conditionality' or 'leverage',⁹⁷ whereby the donor countries try to control recipients' policies. The

U.S. A.I.D. has been fairly open about its policies on 'leverage', mainly because it has needed to justify to the U.S. Congress why the aid it gives should be continued. Thus, for example, the U.S. A.I.D. tries to encourage aid recipients to liberalise trade or to press the interests of United States firms. Furniss (1957)⁹⁸ has argued that because of the M.A.P. a "slightly more favourable investment climate has been structured" in Turkey which "paved the way for economic aid and consequential U.S. influence over economic policy making." However, when security conditions demand the U.S. support a particular government, then the A.I.D. is less concerned with evaluating the performance of the aid given,⁹⁹ and as existing aid is allocated according to security and political considerations it is hardly such as to encourage good economic performance.¹⁰⁰

Hayter points out that the major instrument for exercising leverage is the system of conditional 'programme loans', which are tied to the purchase of goods in the United States.¹⁰¹ These programme loans accounted for almost 30 per cent of total A.I.D. economic assistance to Turkey up to the early 1970s. As Turkey was in receipt of programme loans it had to negotiate loan agreements with the A.I.D. which needed to be approved in Washington. One consequence, is that the government of Turkey would discuss its policies with the A.I.D., and the existence of a permanent A.I.D.

mission in Turkey could be expected to increase U.S. leverage. Hayter stresses that because the A.I.D. is under the direct control of the U.S. government it is more flexible in negotiation than other aid giving institutions like the World Bank and the I.M.F. This flexibility may work to hold back development when the U.S. government has reasons for supporting particular governments as it has done in Turkey.

There is another very important role of the A.I.D., as part of the U.S. military assistance programme, through the contribution it makes towards training and education. The official justification for training Turkish soldiers was that it was necessary for them to be able to handle the military equipment provided by the U.S., but there was another vital non-technical aspect of the M.A.P. training, as Wolpin has stressed, "as a source of optimally American and secondarily Western group identification by officers from Third World countries."¹⁰² Wolpin argues that "political indoctrination and social interaction" have become integral concomitants of the training experience and were intended by U.S. policy makers to "develop a propensity to solicit and acquiesce in American policy suggestions" to "structure a definition of national interest which precludes non-alignment" and to "inculcate an ideology of development which stresses subsidies and hospitality to transnational corporations." Furthermore, Wolpin argues that the U.S. government is fully aware of the

active political roles that military men can play in developing a country's political systems and that this is a "key justification for assigning training a higher priority than the provision of military equipment."

He concludes that the "psychological dimensions of M.A.P. training have been moderately effective in both making foreign military elites more responsive to the U.S. definition of mutual interest and more disposed to accept the advice of American military personnel and diplomats."

Applying Wolpin's general analysis to Turkey it would be necessary to show that her military contribution to N.A.T.O. has been less important than her anti-Communism and Western orientation domestically. Neither of these propositions can be 'proven' but there is indirect evidence which can be used to suggest an answer. The official U.S. view is that the M.A.P. is seen, and was conceived, as a means of increasing the potential military forces available to the N.A.T.O. alliance for the fulfillment of its security objectives. While there is little doubt that Turkey is a vital member of N.A.T.O., because of its geographical location, its intelligence facilities, and not least because of its very large army, it is also true that Turkey's military equipment is and has been mainly old and obsolete.

By the mid 1960s many of the ships provided by the U.S. were rapidly becoming obsolete and although the

airforce had some F-104s and F-5s its aircraft mainly consisted of F-84s and F-86s which had been produced during or before the Korean War. Most of the transport, training, liaison and utility aircraft were also old and obsolete.¹⁰³ The poor level of military equipment possessed by Turkey led Secretary of Defence, McNamara, to testify:¹⁰⁴

"Except for missile units, all major components of the Turkish ground forces are short of a substantial part of their major mission equipment. Much of the Turkish army equipment is below minimum N.A.T.O. standards. Much of it is World War Two or earlier, for which repair parts are no longer available or on which maintenance costs have become prohibitive to continued operations."

Ten years later, in 1975, the Turkish army was still using mainly old equipment. The biggest component of the Turkish military forces was the army which consisted of twelve infantry, two mechanised infantry and one armoured division, with thirteen independent brigades. Within the armoured division the major equipment consisted of 1500 M-47 and M-48 tanks which were American surplus from the Korean War period, expensive to maintain and possessed an outdated 90 millimetre cannon. The navy had 13 destroyers, 15 submarines, 5 escort vessels, 70 patrol boats and a number of support vessels, but most of these were American or British hand-me-downs. The airforce consisted of 13 fighter squadrons, three

of which possessed either F-4E or F-104S aircraft but the remainder were using F-104G, F-100D, F-5A or F-84F aircraft which were regarded as being inferior or even obsolete.

It must be concluded that Turkish military equipment consisted of a great many tools of war that were several years out of date, and that this situation was a permanent feature of the post-war period. Yet apart from defending the country and deterring attack by an extremely powerful neighbour, the Turkish military programme has to be viewed in terms of its complementary relationship with other N.A.T.O. countries, and it is in this aspect that the Americans have on the whole been satisfied. More importantly, it is impossible to treat external defence in isolation from internal security, and Turkey's procurement policy, under the advice of the U.S. M.A.A.G., has been to diversify its weapons stock and to place a great deal of emphasis on its ground forces, which are highly mobile and possess the means to suppress and control political and industrial unrest. Furthermore, the existence of large para-military forces, which in 1975 consisted of 75,000 Gendarmerie including three mobile brigades, has meant that Turkey has had a permanent force concerned with civilian disturbance control. The heavy armour that the army and para-military forces have at their disposal - tanks, armoured personnel carriers, helicopters, transport aircraft and even ground-attack aircraft - are suitable for controlling

demonstrations or carrying out a military coup.

It has been pointed out previously that the U.S. M.A.A.G. and the U.S. A.I.D. are required to work out a joint military and economic assistance programme.¹⁰⁵ There have been many instances when A.I.D. funds have been used for military purposes and M.A.P. funds made available for development projects.¹⁰⁶ A very important role for the A.I.D. has been to train Turkish army recruits, but it has also been used to organise a police programme designed to promote internal security. The U.S. Public Safety Training and Advisory Programmes began in 1954 and were designed to increase the strength and capability of civil peace and para-military forces to enforce law and maintain public order. Stein and Clare (1974)¹⁰⁷ in their study of U.S. police aid emphasise that local police forces "receive training not only in routine police matters, but also in para-military and counterinsurgency techniques developed in response to the threat of civil unrest." In the period 1961-71 41 Turkish personnel were trained in the United States under the Public Safety Programme, at a cost to the U.S. of \$5,000 per head.¹⁰⁸

While it would be wrong to underestimate the military contribution of Turkey, and the importance of her U.S. supplied equipment in particular, to N.A.T.O., it is clear that a major objective of the U.S. government has been to maintain its influence in Turkey, which has

required the U.S. to support the military as an institution and to use the training programme as an instrument of leverage. On the whole the U.S. M.A.P. has been successful in fulfilling American objectives in Turkey and on three occasions the Turkish military have stepped in to keep the country on a pro-Western course of development. However, U.S. leverage in Turkey, and particularly over the Turkish military, is not a constant. Dunn (1961)¹⁰⁹ has argued that the U.S. training programme generally has had an influence which has varied from time to time and from issue to issue, "yet there can be no doubt concerning its existence." He also acknowledges that anti-Communist officers may be incapable of distinguishing non-Communist progressives from Communists, which may well satisfy American objectives in most countries. Yet in Turkey, although the military has been committed to the West, it has also been very nationalistic and capable of independent action. Furthermore, there are inevitably cleavages within any military organisation, which arise because of the structure of society, or are inherent in organisational structure, or result from the interaction of the two.¹¹⁰ Nevertheless the influence of Ataturk is still dominant in the Turkish army and the guide-lines he established for its role in politics have been acceptable to the U.S. and made it much easier for America to maintain its sphere of influence.

Private Foreign Capital

One of the stated objectives of U.S. policy in Turkey was to promote private enterprise and an open economy, which led to Turkish attempts to encourage an inflow of private foreign capital. The Law to Encourage Foreign Capital Investment was introduced in 1950, then amended and made more liberal in 1951, but it was not successful in encouraging foreign capital on a scale necessary to have any great impact. During 1953 the Americans took the initiative to convince Turkey that it was necessary to go to greater lengths to attract foreign capital. On 26 August 1953 Clarence Randall, Chairman of the U.S. House of Representatives Commission on Foreign Trade Policy, who was also President of the Chicago Inland Steel Company, arrived in Ankara for talks with the Turkish government. Randall worked hard to convince the Turkish government and other influential groups that there should be no restrictions on the activity of foreign capital nor on the transfer of foreign exchange. In order to encourage foreign investment Randall argued that Turkish stocks should be available on foreign stock exchanges and investment opportunities in Turkey should be publicised abroad. Domestically Randall and his party suggested that state involvement in industry should be limited and all firms whether state, foreign or local should operate under equal conditions based on the principle of free competition.¹¹¹

The Turkish government responded in a positive way,

and the Law to Encourage Foreign Investment was amended once again in January 1954 (Law 6224) and an Oil Act passed in March. It was hoped that an influx of foreign capital would speed up the rate of growth and help overcome the scarcity of foreign exchange, but the new concessions had a disappointing effect. Ahmad (1977)¹¹² has argued that the new laws provided neither the capital necessary to develop and exploit her resources, nor did it create jobs to ease the increasing unemployment. Krueger (1974)¹¹³ also argues that in spite of official policy to encourage and attract private foreign capital flows they were much less important than bilateral capital transfers throughout the 1950s and 1960s. The problem of unemployment will be considered later, but first it is important to establish that although the foreign investment was on a relatively small scale, foreign capital came to have a very big impact on Turkish development. Most of the foreign investment was in partnership with local capital, but it was an unequal relationship with the external capital being dominant. The process of externally controlled dependent industrialisation was expanded after 1963 when many of the state economic enterprises were transferred back to private firms, both local and foreign, but very often in the form of joint ventures. Berberoglu (1981)¹¹⁴ has pointed out that these joint ventures meant that "a large section of the national industrial bourgeoisie was integrated into the dependent economy... thus becoming... a dependent industrial

capitalist class with direct ties to metropolitan transnational monopolies."

The Pattern of Foreign Investment

Almost all foreign investment in Turkey comes under Law 6224, which is extremely liberal and permits an unlimited transfer of profits abroad. Foreign investment is permitted in any field except state monopolies and there is separate legislation to control investments in oil and mining. Between 1950-70 foreign capital entering Turkey averaged only about \$19 million a year, as Table 6.11 shows, yet after the massive devaluations of 1958-60 foreign exchange was able to buy a bigger share in Turkish industry and there was a significant increase in foreign holdings. In terms of Turkish lira foreign investment was T.L. 12 million a year in the 1950s, but about six times higher than this per year in the 1960s.¹¹⁵

The influence of foreign capital was increased because it was concentrated in the manufacturing sector. At the end of 1974 there were 109 firms operating under Law 6224, with 93 in manufacturing, two in mining, one in agriculture and 13 in services.¹¹⁶ Within manufacturing 25 firms were in chemicals, 16 in electrical appliances and electronics, 11 in metal goods, nine in food, alcoholic beverages and tobacco, and eight in motor vehicles.¹¹⁷

TABLE 6.11

The Net Flow of Private Foreign Capital
into Turkey, 1950-70, in U.S. \$ million

<u>Year</u>	<u>\$m.</u>	<u>Year</u>	<u>\$m.</u>	<u>Year</u>	<u>\$m.</u>
1950	9	1957	-61	1964	58
1951	-30	1958	73	1965	-1
1952	43	1959	14	1966	-8
1953	141	1960	25	1967	-2
1954	76	1961	-34	1968	11
1955	12	1962	50	1969	-10
1956	-29	1963	-7	1970	78

Source: I.M.F. Balance of Payments Yearbook,
Washington, various issues.

Overall foreign capital accounted for 11.7 per cent of gross sales in manufacturing (1974) and 6.3 per cent of employment.¹¹⁸ In five sectors, however, firms with foreign partnership accounted for more than 30 per cent of sales:

Stone and Earthware Industry	37%
Electrical Machinery and Equipment	40%
Motor Vehicles	44%
Chemicals	46%
Rubber and Tyres	59%

The power of foreign capital is also indicated by the fact that in the 1970s 70 out of the largest 144 Turkish companies were partnerships of domestic and foreign capital.¹¹⁹

Unbalanced Growth

During the 1960s the construction and service sectors performed well both in terms of profitability and rate of growth, but while these sectors exceeded targets the agricultural and industrial sectors grew less rapidly than planned, and as a consequence G.N.P. grew somewhat more slowly than envisaged. The failure of agricultural production to increase as planned was largely because no land reform scheme was achieved, and investment and the spread of new technology was slower than expected.¹²⁰

In the industrial sector there was considerable progress and by 1973 the sector accounted for about 22 per cent of G.N.P., yet the full achievement of the planned manufacturing capacity was impeded by insufficient amounts of well organised investment projects, foreign exchange and domestic savings.¹²¹

With the start of the first Five Year Plan in 1963 it was expected that the state would play a subsidiary role in development, and that the private sector would lead the struggle for growth. Only if the private sector failed to achieve the planned targets would the state step in to carry out investment in neglected areas, or to provide public funds or foreign exchange when

private savings were too low. In effect the government expressed its confidence in private enterprise and its ability to overcome Turkey's economic problems.

In the manufacturing sector foreign investors in partnership with local firms set about producing goods for the domestic market. In the firms with foreign partnership the domestic partner put up most of the capital¹²² and the foreign investor provided the patents and trade marks, most of the components of the products, most of the machinery, and some of the managerial know-how. The foreign capital determined the kind of products that would be produced, but while the availability of local raw materials and relatively cheap labour meant high profits for the investors, the investments made virtually no contribution to export earnings and increased Turkey's dependency on a few industrialised countries.

Aspects of Dependency

From the earliest years of the post-war period Turkey has suffered from a foreign exchange gap, and it has been a permanent aim of successive governments to reduce and eventually remove the need for foreign capital and economic assistance. In order to consider whether foreign investment and economic assistance has had a positive or negative effect on the foreign exchange gap in Turkey it is necessary to analyse the effects

of the inflow of the foreign resources on import requirements, the growth of exports, profit transfers and debt servicing.

Foreign investment and economic assistance may act to raise import requirements in two ways. Firstly, they may, through the employment of predominantly skilled and expatriate labour, cause the distribution of income to be tilted towards those with a high propensity to consume imported foodstuffs and luxury goods. Secondly, they may result in investment and production processes which have a high initial imported capital content and a continuing dependence on imported intermediate goods and replacement capital.¹²³

In the case of Turkey there has been an enormous demand for luxury consumer goods particularly since the 1960s when a large middle class set its sights on the commodities available in Western consumer societies, but all consumer goods imported into Turkey have been subject to licenses, which have been very restrictive, and many goods have been excluded from the permitted imports list. In addition tariffs and other charges on imports have been very high, and still averaged about 50 per cent of the c.i.f. value of imports in the mid 1970s. These policies have restricted the importation of consumer goods, so that while they accounted for about 20 per cent of imports in 1950, this had been reduced to 9.6 per cent in 1960, 5 per cent in 1970 and 3 per cent in 1976. Instead Turkey began to produce her own consumer

goods which was consistent with the emphasis on industrialisation after 1963 and provided the incentive for foreign capital to seek investment opportunities.

But if the inflow of foreign capital was successful in establishing a whole range of new consumer goods industries it was not so successful in stemming the flow of imports. The reason was that the new units of production were engaged in 'screw driver' activities, assembling mainly imported components, employing relatively few workers. The highly protected market encouraged inefficiency but it did generate high profits for investors. This kind of structure has been aptly described as the 'Trojan Horse' of Turkish industry serving both foreign and local investors.¹²⁴ In the short-run the profit motive ensured a rapid rate of industrialisation after 1963 but it would have been impossible without a protected home market and by the early 1970s, when the home market was no longer large enough to provide sufficient demand for continued expansion, the new industries found they could not compete in foreign markets.

The Turkish government must bear the responsibility for the distorted market structure that emerged. The policy of adopting high import duties, an over-valued exchange rate and of providing substantial investment incentives, which heavily subsidised capital costs relative to labour costs, meant that the signaling

mechanism provided by the price system was no longer functional. Rationing in goods and capital markets also meant that market prices no longer reflected relative scarcities. As a consequence the industrial sector grew in response to market incentives that bore little relation to the social value of producing different goods.¹²⁵

The textile industry has been one of the most successful of the new industries established in Turkey, and unlike other branches of manufacturing its production has been almost completely geared to export markets. In 1978 raw cotton made up a quarter of Turkey's total and a third of her agricultural exports, making Turkey the fourth largest cotton exporter in the world.¹²⁶ Furthermore, textile exports accounted for about 20 per cent of total and over 50 per cent of industrial exports. There were only three firms with foreign partnership operating in the textile industry in 1975 and these accounted for a mere 1 per cent of sales, so that the achievements of the industry have been largely due to Turkish efforts. Yet the industry has failed to produce domestically the machinery required, and in spite of plans having been drawn up to begin domestic production, neither local nor foreign capital has been forthcoming.

The dependence on imported capital goods has continued throughout the post-war period. By encouraging foreign capital into certain key sectors (leading sectors) it was hoped that backward and forward linkages

would integrate the rest of the economy into the modern sector. Instead the unbalanced growth has perpetuated the dependence of the Turkish economy on the industrialised world, particularly for investment goods and industrial raw materials. The encouragement of foreign capital failed to bring about the creation of an independent capital goods industry so that Turkey continued to rely on imports for machinery and technology.

Table 6.12 shows that in 1976 52.3 per cent of industrial production was either in intermediate or investment goods, whereas in 1962 the figure had been 37.7 per cent. However, this figure for 1976 is misleading since the investment goods include electronics, of which 81.6 per cent of the output is in consumer equipment,¹²⁷ and road vehicles, and these two sectors should really be regarded as consumer durables. After allowing for electronics and road vehicles, the investment goods ratio falls to 11.2 per cent which is not a great improvement on 1962. Furthermore, the investment and intermediate goods sectors are largely dependent on foreign technology and components for their survival and barely make any contribution to the foreign exchange problem. Table 6.13 gives a breakdown of production in the manufacturing industry for 1976 and clearly indicates the emphasis on consumer goods production.

The second element in the foreign exchange equation is the export performance after the inflow of foreign

TABLE 6.12

The Composition of Industrial Production1962-76, percentages

<u>Sector</u>	<u>Year</u>			
	<u>1962</u>	<u>1967</u>	<u>1973</u>	<u>1976</u>
Consumer Goods	62.3	52.9	53.5	47.7
Intermediate Goods	27.8	35.4	32.5	36.2
Investment Goods ¹	9.9	11.7	14.0	16.1

Note: ¹includes consumer durables.

Source: Turkey: An Economic Survey, op. cit.
Table 50.

TABLE 6.13

Production in Manufacturing Industry1976, percentages

<u>Consumer Goods Industry</u>		<u>Intermediate Goods Industry</u>	
Food	28.8	Forest Products	3.0
Beverages	1.4	Pulp & Paper	0.8
Tobacco	3.8	Printing	0.6
Textile & Clothing	13.8	Hides & Leather	2.8
	<u>47.7</u>	Rubber	0.8
		Plastics	1.1
		Chemicals	4.4
		Petrochemicals	1.9
		Petroleum Products	8.1
		Fertilisers	1.8
		Cement	1.3
		Clay Products	1.2
<u>Investment Gds. Industry</u>			
Metal Products	3.0		
Machinery	3.6		
Agric ¹ Machinery	1.4		
Elect ¹ Machinery	2.1		
Electronics	1.0		

Road Vehicles	4.0	Glass	0.6
Railway Vehicles	0.4	Ceramics	0.3
Ship Building	0.5	Iron & Steel	5.4
	<u>16.1</u>	Non-Ferrous Metals	1.9
			<u>36.2</u>

Source: Derived from State Planning Office Publications.

capital. Turkish exports failed in the post-war period to keep in line with the enormous growth of imports. Table 6.14 shows that the trade balance has grown considerably since the 1950s, with exports financing a declining share of imports. By the 1970s the financing requirement had reached astronomic proportions. Even in 1976 primary products (agriculture, mining and quarrying) still accounted for 69.6 per cent of exports (1950 = 81.9) and although industrial exports were 30.4 per cent of the total in 1976 (1950 = 18.1), 5 per cent of the total were agriculture based processed products and another 13.5 per cent were textiles, which is shown in Table 6.15.

The whole of the improvement in the ratio of industrial product exports was due to the growth of textile exports, which had been non-existent in 1950 and accounted for only 0.8 per cent of total exports even in 1960. Yet foreign partnership firms only accounted for 1 per cent of sales in textiles, so that the

TABLE 6.14

Turkish Balance of Payments 1950-76,U.S. \$ million

	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1976</u>
Imports	-286	-468	-948	-5128
Exports	263	321	588	1960
Balance of Trade	-23	-147	-360	-3168
Invisible Transactions	-27	-44	+181	+900
Current Account Balance	-50	-159	-171	-2254
External Debt Repayment	-15	-65	173	-119
Financing Requirement	-65	-204	-344	-2373
Financing Requirement as percentage of Exports + Invisible Balance	27.5	73.6	44.7	82.9
Financing Requirement as percentage of Imports + Debt Repayment	21.6	38.3	30.7	45.2
Exports as percentage of Imports	91.9	68.6	62.0	38.2

Source: Turkey: An Economic Survey, op. cit. p.142,
Table 86.

TABLE 6.15

The Pattern of Turkish Exports 1950-76,
percentages

<u>Sector</u>	<u>Year</u>				
	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1975</u>	<u>1976</u>
Agriculture	75.1	70.8	75.2	56.6	64.0
Mining and Quarrying	6.8	4.1	7.3	7.5	5.6
Industrial Products	18.1	25.2	17.5	35.9	30.4
of which Textiles	-	0.8	4.4	9.5	13.5

Source: Derived from Turkey: An Economic Survey,
op. cit. Table 87.

contribution of textiles to exports was entirely due to the efforts of domestic capital. In conclusion, not only did the rapid industrialisation fail to generate a growth in exports in line with the growth of imports, but apart from textiles, the pattern of exports remained essentially the same, displaying a high dependence on a narrow range of primary products which were mainly destined for the industrialised countries of the West.

The third factor to consider is the relationship between the inflow of private foreign capital and profit transfers and related payments. It was the inadequacy of saving mobilisation efforts in financing investment that led to the heavy reliance on foreign sources.

Turkish dependence on foreign capital and economic assistance has been such that when the flow from Western sources slowed down the economy was forced into crisis. Furthermore, foreign capital flows subsequently caused a large external deficit through the interest payments and profits transfers that were the counterpart of the investment. Between 1947 and 1964 Turkey received \$953.1 million in foreign capital flows and paid \$287.3 million in interest. Between 1963-70 loans to the value of \$918.8 million were received and \$1197 million was paid as repayments and interest. Turning to profit transfers, these too have been very high, amounting to 25 per cent of actual investment in 1964, 68 per cent in 1966, 218 per cent in 1967 and 196 per cent in 1968. Between 1967-70 \$133 million was invested and \$122 million was transferred to parent companies.¹²⁸ By 1976 the position on the external capital account was quite serious as is shown in Table 6.16. Profit transfers were 217 per cent of the inflow of private foreign capital, although in 1975 the ratio was a mere 12 per cent. Taking the three years (1974-76) together the inflow on capital account was \$1340.6 million compared with an outflow of \$1020.9 million which clearly emphasises the enormous cost of servicing and repaying foreign debt.

Another measure of the scale of indebtedness is the debt service ratio,¹²⁹ which stood at 17 per cent in 1976, 33 per cent in 1977 and 41 per cent in 1978.¹³⁰ The very

TABLE 6.16

Foreign Capital Flows 1974-76U.S. \$ million

	<u>1974</u>	<u>1975</u>	<u>1976</u>
Private Foreign Capital	88.1	304.8	27.4
Project Credits	268.5	286.8	365.0
Interest Payments	102.4	124.0	217.0
Profit Transfers	71.1	36.3	59.6
Payments for Services			
from Project Credits	17.0	15.0	15.8
Debt Repayments	126.1	117.5	119.1

Source: State Planning Organisation publications.

high debt service ratio is one of the reasons why Turkey has sought, and the developed countries have been willing to advance, further foreign credits.

The growth of foreign indebtedness is not necessarily a serious problem, since the foreign capital may generate an increase in production which more than covers the cost of servicing the debt. However, in the case of Turkey it has been shown that the foreign investment, although it contributed to a rapid rise in industrial production, did very little to expand exports and resulted in a steep rise in imports of capital goods and raw

materials. Even in the period 1974-76 nearly 70 per cent of the capital inflow was in the form of project credits, (Table 6.16), which were a form of 'tied' aid, and could not be expected to reduce the foreign exchange deficit. By the second half of the 1970s when exports were stagnating, when the cost of oil imports was crippling and military imports were \$500 million a year, then the debt servicing problem was adding to the balance of payments crisis. Yet as the crisis deepened in the late 1970s Turkey found it very difficult to obtain further foreign capital or credit and it was this that forced the government to go to the I.M.F. for finance, which was only given subject to stringent domestic economic policy.

Unfortunately for Turkey during the second half of the 1970s there was little hope of solving the foreign exchange problem in the short-run. Exports were mainly of primary products, and agricultural production could not be increased without land reform and substantial injections of capital. The traditional short-run macro-economic solution to external deficit is to devalue or deflate, but neither of these policies are without side-effects. Deflation is particularly hard on poor countries, like Turkey, where the per capita income is low and unemployment already high, since the burden is likely to be on the less privileged members of society. Devaluation, on the other hand, may not increase export receipts, because of supply constraints in the case of primary

products and barriers to trade in the case of industrial goods like textiles. Nor are imports likely to respond to devaluation when, as in the case of Turkey, imports are essential and there is no domestic substitute industry, but there is always the danger that devaluation will exacerbate domestic inflation. Nevertheless Turkey was forced to deflate and devalue the lira in the late 1970s, yet the foreign exchange position had become so serious that it was impossible to manage without further foreign credit in the short-run.

External Economic Relations and Unemployment

Two of the major issues that have occupied the United Nations in discussions on the problems facing L.D.C.s have been employment and income distribution.¹³¹ These two goals are closely connected since, for the vast majority of the population of L.D.C.s, income is derived solely from employment, and rising unemployment inevitably means that there is unequal participation in the benefits of development. In the case of Turkey the labour force has been growing more rapidly than employment opportunities in the post-war period, with the result that unemployment and under-employment have been rising. Statistics on unemployment prior to 1962 are unreliable but the growth in it since then is shown in Table 6.17. The unemployment problem is actually more critical than indicated in Table 6.17, firstly because agricultural under-employment is probably greater than that recorded¹³² and secondly

TABLE 6.17

Unemployment 1962-76 in 000's

	<u>1962</u>	<u>1967</u>	<u>1972</u>	<u>1976</u>
Labour Force Supply	12197	13442	14320	15990
Labour Force Demand	11951	12732	13510	14634
Agriculture	9216	9073	8760	8680
Industry	995	1175	1500	1849
Construction	305	369	440	594
Transportation	258	324	460	670
Services and Other	1177	1719	2350	2706
Non-Agricultural Surplus	235	530	725	1356
Disguised Unemployment in Agriculture	750	910	850	710
Total Labour Force Surplus	1085	1440	1575	2066
Unemployment Rate (%)	8.1	10.7	11.0	12.9

Source: Turkey: An Economic Survey, 1977, op. cit.
Table 129.

because there is also under-employment in urban areas. Furthermore, many Turkish workers have been obliged to go abroad to find work. In the mid 1960s there were about 150,000 Turkish workers abroad, and this had risen to almost 700,000 by 1976. Although this export of workers involved economic and social costs to Turkey, it did result in substantial remittances, and without it open unemployment would have been higher.

A major cause of the rising unemployment has been the very rapid rate of population growth which has been over 2.5 per cent per annum since 1950. The rising population has been accompanied by an even more rapid growth of urban population, due to both rural 'push' and urban 'pull' factors, particularly after 1962 when the introduction of planning resulted in greater emphasis on industrialisation. In spite of industry increasing its absorption of the economically active population from 8.3 per cent in 1962 to 13.0 per cent in 1976, the rate of urbanisation was even more rapid, so that urban unemployment rose rapidly after 1963.

Unemployment is a problem which is not unique to Turkey, yet it is important to consider in what ways the particular path of industrialisation taken in that country affected the level of employment. In particular it is necessary to consider how the flow of economic assistance through the U.S. A.I.D. and its predecessor agencies and the flow of foreign capital affected employment creation.

The A.I.D. programme for Turkey went some way towards meeting the shortage of capital experienced by the country but the impact on employment was adverse because of the kind of technology transferred. Turkey possessed abundant supplies of labour but capital was scarce, yet the technology imported through A.I.D. loans and grants was mainly capital intensive. There are several reasons why the A.I.D. funds resulted in capital intensive technology being imported:¹³³

1. U.S. A.I.D. officials who provide advice to their Turkish counterparts are only aware of technology which is produced in the United States. These officials do not have access to alternative technologies nor are they aware of the possibilities of adapting existing technologies to meet the conditions in Turkey. It must also be recognised that it is in the interest of the U.S. to sell its own technology and one of the stated objectives of the A.I.D. is to extend American influence.
2. The form that A.I.D. economic assistance took did not reflect economic scarcity but rather it had the effect of shaping the pattern of investment and, therefore, development. Because of the A.I.D. policy of limiting aid financing to foreign exchange costs, the Turkish government and private firms were encouraged to over-emphasise those projects which called for large sums of foreign exchange and which were inevitably capital intensive and used more elaborate capital. Furthermore, the emphasis of A.I.D. on project lending had the effect of restricting the choice of Turkey because of

the 'tying' of aid. It would have been better for Turkey if she had been given greater choice to select the best technology, but this was impossible under the terms of the aid. In some cases the economic assistance was given under the condition that U.S. contracting firms would be employed, which in the case of construction meant using machine intensive methods.

3. The rates of interest charged by the A.I.D. on loans to Turkey were low, which meant that capital was being subsidised. Furthermore, Turkish policy on trade and exchange also encouraged the importation of capital equipment at favourable exchange rates, and by offering low interest rates, tax allowances on investment, preferential tariffs on imported capital goods and favourable import licensing arrangements, capital was made artificially cheap. McCabe and Michalopoulos (1971)¹³⁴ have shown that these domestic policies and the relative ease with which foreign credit was available have had a significant impact on the composition of investment and the capital stock.

However, what is profitable in terms of individual calculation may not be profitable from the point of view of the country as a whole. The artificially induced capital intensive technology limited the employment opportunities in the modern industrial sector and made it impossible for industry to absorb the labour released from traditional sectors. In the neo-classical tradition, Little, Scitovsky and Scott (1972)¹³⁵ have argued that,

attempts to speed up industrialisation through government (or foreign) intervention in the economies of L.D.C.s by subsidising capital, causes inefficient resource allocation, rising unemployment, generates inflation and leads to continued under-development. It might be argued that Turkey has suffered from all of these consequences; moreover, there were long term adverse effects of under-pricing imported capital goods, in that the establishment of capital goods industries in Turkey was inhibited in spite of plans to create them. Even at the end of the T.F.Y.P. (1977) the process of import substituting industrialisation had not gone significantly beyond the manufacture of consumer goods, and the production of intermediate goods, domestic raw materials and capital goods was still largely undeveloped.¹³⁶

This has been unfortunate in the case of Turkey since these latter industries could produce equipment which is more labour intensive and better adapted to the factor endowments of the country.¹³⁷

4. Loans and grants made by the A.I.D. invariably go to large public institutions and the larger firms and businesses, which further induces the adoption of capital intensive methods. A.I.D. technical assistance has also been geared to the economic and social institutions meeting the needs of large operators, while the needs of small firms have been ignored.

All of these factors have led to the substitution of capital for labour and have reduced the growth of

employment opportunities. Turkish governments must share the blame since they have encouraged the adoption of projects which incorporate the latest technology and are, therefore, capital intensive. Furthermore, the encouragement of foreign private capital has also led to the employment of the same capital intensive methods used in the developed world. McCabe and Michalopoulos¹³⁸ have shown that industries using imported equipment are more capital intensive than industries with a low component of imported equipment. This means that the employment-capital ratio is considerably higher in a sector using only domestically produced equipment than it is in one using only imported equipment. Significantly they conclude that a shift in the composition of investment to sectors with a high component of domestic capital goods would not only have beneficial effects on employment but also on value added.

By 1973 it was also noticeable that those firms in foreign partnership were employing relatively less labour than their domestic counterparts, reflecting the greater capital intensity of their production. This was not only because foreign firms were concentrated in the manufacturing industry, because even within manufacturing Table 6.18 shows that those firms in foreign partnership accounted for a larger share of sales than employment, apart from in the clothing and beverage industries. Overall in the manufacturing industry the firms with foreign capital accounted for

11.7 per cent of sales but only 6.3 per cent of employment.

In conclusion it is quite clear that if employment had been made a major priority in post-war Turkey it would have been necessary to control the direction and form of foreign involvement in the economy by raising the user cost of imported capital. Furthermore, it must be stressed that the growth of manufacturing industry with the help of foreign capital led to a higher propensity to import raw materials and capital goods and created a longer-term dependency on those imports, yet the foreign capital failed to generate higher exports or to break the dependence on a narrow range of primary products for sale to a small number of industrialised countries. These aspects of dependency were not inevitable and might have been prevented if the Turkish government had pursued an interventionist policy which encouraged the substitution of domestic resources for imported ones. However, there must be a big question mark over whether foreign capital flows and economic assistance would have been forthcoming if Turkish economic policy had insisted on new investment going into import-substituting industries like capital goods, and into projects which utilised domestic or domestically produced inputs. The United States certainly had a great influence in post-war Turkey in pushing her towards a free unregulated economy and it is questionable whether foreign exchange flows would have been on the scale they

TABLE 6.18

The Share of Firms with Foreign Ownership in
Sales and Employment in
Manufacturing Industry, 1973, percentages

<u>Manufacturing Industry</u>	<u>Sales</u>	<u>Employment</u>
Food	5.2	2.4
Beverages	8.7	17.2
Textiles	1.1	0.5
Non-leather Goods and Clothing	1.3	2.5
Paper and Paper Products	3.5	1.0
Chemicals	46.1	24.4
Pharmaceuticals	29.7	10.1
Rubber and Tyres	58.5	26.6
Plastic Goods	13.4	4.7
Glass	13.7	4.9
Stone and Earthenware	37.0	18.9
Metal Goods	13.0	5.9
Non-electrical Machinery	17.9	7.4
Electrical Machinery	40.2	31.1
Motor Vehicles	44.2	18.3

Source: T.G. Uras, Research on Foreign Capital Investments in Turkey.

were without a Turkish commitment to uncontrolled private enterprise.

MILITARY EXPENDITURE AND ECONOMIC GROWTHIntroduction

The object of this chapter is to estimate the relationship between defence expenditure and economic growth using econometric techniques.¹ Economic theory cannot tell us whether higher defence spending will reduce or increase the growth of output, but it can help us to understand the mechanisms through which defence influences output. Yet many of the earlier studies on the subject failed to specify the precise linkages between defence and output, so that much of the evidence must be viewed with caution.

One of the simplest approaches to the relationship between defence expenditure and economic growth is found in Kennedy (1975).² He uses two indicators of economic performance, the growth rate of G.D.P. and the growth rate of G.D.P. per capita, and using cross section data for 38 Third World countries estimates the effect of defence spending on economic progress. Kennedy found that the countries with the highest defence burdens (military expenditure as a proportion of G.N.P.) differed widely in terms of growth of G.D.P. By arbitrarily breaking up the countries into groups according to whether they were high or low growth and high or low in terms of the defence burden, he found that more countries with

high defence burdens experienced high growth rates, but overall concluded that there was no obvious relationship between growth rates and the percentage allocated to defence.³

Kennedy also looked at the growth of per capita product in relation to the defence burden for three regional groupings of the 38 countries, Africa, Asia and Latin America. For each of these groups there seemed to be some evidence to support the view that the higher growth L.D.C.s had a lower than average defence burden, nevertheless, Kennedy dismissed the 'crude' relationship and argued that it might be due to varying rates of population growth as much as, or more than, any differences in military spending.⁴ Unfortunately Kennedy does not extend his analysis to consider the effect of population growth on G.D.P. per capita, which, presumably, could be either positive or negative. He concludes that the statistical evidence is not unambiguous.

The same procedure that Kennedy used for his analysis can also be used on time series data for Turkey. Table 7.1 shows the growth of G.D.P. and G.D.P. per capita against the defence burden for the period 1952 to 1976. The average defence burden for the five years with the highest growth of G.D.P. was 4.9 per cent, while for the five years with the lowest growth of G.D.P. it was 5.3 per cent.. A similar differential is obtained if the best five years and worst five years in terms of G.D.P. per capita are

TABLE 7.1

Growth of G.D.P., G.D.P. per capita
and the percentage of G.D.P. allocated
to defence in Turkey, 1952-76

	<u>Rate of Growth</u> <u>of G.D.P. (%)</u>	<u>Rate of Growth</u> <u>of GDP per capita</u> <u>(%)</u>	<u>Military</u> <u>Burden (%)</u>
1952	12.0	5.7	5.4
1953	11.2	8.2	5.3
1954	-2.9	-5.6	5.9
1955	8.1	5.1	5.6
1956	3.3	0.8	5.2
1957	7.9	4.4	4.3
1958	4.6	1.5	4.2
1959	4.6	1.2	4.9
1960	2.9	0.7	5.1
1961	1.7	-0.7	5.5
1962	6.1	3.5	5.1
1963	9.4	6.6	4.7
1964	4.1	1.6	4.8
1965	2.6	-0.9	5.0
1966	11.7	9.4	4.4
1967	4.5	2.5	4.5
1968	6.7	3.8	4.6
1969	5.3	3.5	4.3
1970	4.9	2.4	4.3
1971	9.1	6.3	4.5
1972	6.6	4.6	4.3
1973	4.4	1.5	4.1
1974	8.8	5.4	3.9
1975	7.8	5.8	6.4
1976	8.1	6.8	7.0

Sources: S.I.P.R.I. Yearbooks; Turkey: An Economic Survey, 1977.

compared with the defence burden, which indicates, if anything, that the defence burden has reduced the growth rate. However, the results must be interpreted as being inconclusive, partly because the procedure cannot distinguish between cause and effect. To observe a correlation between two sets of variables tells us nothing about causality, and it is quite possible that a spurious relationship may exist. Moreover, Kennedy does not fully analyse the relationship between growth and the military burden. He argues that military expenditure is generally regarded as wasteful and might divert resources away from productive activity, which implies that the military burden may reduce savings and/or investment, and through this, therefore, reduce economic growth. Kennedy does not, however, try to establish these links in any formal way, nor does he try to test them. Clearly this procedure cannot help in any way to determine the influence of the military burden on economic growth.

Whynes (1979)⁵ found a positive correlation between defence expenditure growth and per capita income growth, with a coefficient of 0.649 for developed countries and 0.496 for L.D.C.s. The correlation coefficient between the defence burden and per capita income was found to be 0.224 for L.D.C.s, but negative (-0.355) for the developed country sample. These results must be discounted, however, since Whynes uses data expressed in current prices, so that part of the correlation is due to the inflationary trends within each series. Moreover, there

is no analysis of the statistical significance of the results.

The Opportunity Cost of Defence Expenditure

An interesting approach to the question of the cost of military expenditure is presented by Benoit and Lubell (1967)⁶ who derive some estimates for the net opportunity cost of military expenditure, which they then express as a percentage of G.N.P. Emphasising that their results were suggestive rather than conclusive, they found that for Turkey the net opportunity cost or burden of military expenditure was about 2.8 per cent of G.N.P. There are several reasons why Benoit and Lubell's estimate for the burden is too low, so it is worthwhile going through their figures and correcting as appropriate to derive a more accurate estimate.

Using data for 1964 Benoit and Lubell present the breakdown of military expenditure in Turkey as follows:

(in T.L. million, column 1)

	(1)	(2)
Total Defence Expenditure	2911	: 3443
Military Personnel	1443	: 1707
Major Procurement	326	: 386
Research and Development	1	: 1
Construction	264	: 312
Operation and Maintenance (O & M)	848	: 1003
Transfers: Internal	4	: 5
External	25	: 30

The first under-estimate is found in the figure for total defence expenditure, which is taken from the Turkish National Accounts. The N.A.T.O. estimate of military expenditure for 1964 was 3443 T.L. million, which is shown alongside the national estimate. The N.A.T.O. estimate is likely to be more accurate since it takes into account military expenditure which is disguised by being financed by other Ministries. As the N.A.T.O. estimate is 18 per cent above the Benoit-Lubell figure all the components of defence expenditure have been increased by the same proportion, and the adjusted figures are shown in the second column.

Benoit and Lubell argue quite correctly that the total level of military expenditure does not give the true opportunity cost, which represents the amount of non-defence goods and services that are sacrificed in order to make possible the defence activities. In particular the amount that is paid for the military use of resources may not correctly reflect what would have been paid for the same resources in the market. Thus military conscripts are paid less than the average wage, but the opportunity cost is what those men would have contributed to production if they had been employed in civilian activities. The opportunity cost of military personnel can be estimated by multiplying the number of men in the armed forces by the average civilian wage. Benoit and Lubell give a figure of 480,000 for military personnel but this does not include para-military forces,

which increases the number to 563,000. The next question is what the armed forces would have earned in civilian productive activity, but Benoit and Lubell give no details on how they arrived at a figure for the average wage in the civilian sector. It is known that the average daily wage for male workers covered by social insurance was 20.01 T.L. in 1964, which, assuming a working year of 250 days, gives an average annual civilian male wage of 5002.5 T.L. The opportunity cost of military personnel can now be estimated as 563,000 times 5002.5 T.L., which gives 2816 T.L. million,⁷ and is shown in Table 7.2.

TABLE 7.2

The Opportunity Cost of Military
Expenditure, in T.L. million

Military Personnel	2816
Major Procurement	386
Research and Development	-
Construction	265
O & M	907
Transfers Abroad	30
Total Gross Opportunity Cost	<u>4404</u>

For procurement, like Benoit and Lubell, it will be assumed that purchases are specialised weapons and weapons systems without civilian capability, and, therefore, all of it is a burden. Research and development is insignificant and can be ignored in the estimate. With

military construction it is not immediately clear whether it is a burden or not, since if it has a civilian use, or would have been provided by the civilian authorities in any case, then it should not be regarded as a burden. Like Benoit and Lubell it is assumed that 15 per cent of military construction has civilian use, and the remainder (265 T.L. million) is taken as the opportunity cost, which is also shown in Table 7.2. For O. & M. once again there may be some civilian use, e.g. medical services, housing, upkeep of communications and transport systems, but in the absence of detailed information on Turkey it will be assumed, like Benoit and Lubell, that the opportunity cost is 90.4 per cent of the expenditure. Transfers abroad are taken as a burden at the full cost. The total gross opportunity cost can now be determined, and is presented in Table 7.2.

To arrive at the net burden of national defence, Benoit and Lubell assume that instead of each country keeping its own defence system, there is a unified world-wide peace-keeping operation, then the cost of this would be the minimum cost of preserving international security. They use an estimate made by the U.S. A.C.D.A. on the cost of such an international security organisation and this cost is allocated to each country in proportion to its contribution to the U.N. This cost needs to be deducted from the gross opportunity cost, and is shown in Table 7.3. It would also be necessary to maintain a military force for internal security so the expenditure

by the Gendarmerie in 1964 is used to approximate this cost. The net opportunity cost is estimated in Table 7.3 and it can be seen that as a percentage of G.N.P. it amounts to 5.3 per cent.

TABLE 7.3

The Net Military Burden for 1964,
in T.L. million

G.N.P.	67,397
Gross Opportunity Cost	4,404
Contribution to International Security Organisation	583
Minimum Defence Programme for Internal Security	<u>275</u>
Net Opportunity Cost	3,546

Net Opportunity Cost as percentage of G.N.P. = 5.3

This estimate of 5.3 per cent is almost twice as high as that of Benoit and Lubell and a more accurate reflection of the opportunity cost of military expenditure. The main limitation of this estimate as a measure of lost civilian production is that it takes no account of any positive effects that military expenditure may have on economic growth, and this cannot be ignored. Nevertheless the results do point to a serious and heavy cost of

alternatives forgone in maintaining a large military presence in Turkey.

Another approach to the opportunity cost issue is to try to determine empirically which sectors of the economy experience a smaller share of the 'cake' when military expenditure rises. This exercise should help to establish if there is any systematic transfer of resources to military expenditure from the main components of aggregate demand. Moreover, the results may help us to do a cost-benefit analysis of military activity, and to identify those components of aggregate demand that suffer disproportionately from a military build-up. The opportunity cost of military expenditure could be in the form of current welfare (consumption, health, etc.) or if investment is reduced, then future generations may suffer through lower economic growth.

Pryor (1968)⁹ and Russett (1969)¹⁰ both looked at the relationship between the defence burden and other components of G.N.P. Pryor found no evidence of a systematic relationship between defence expenditure and other aspects of civilian spending, based on cross section analysis of O.E.C.D. countries between 1956-62 and time series regression analysis over the same period. Russett was mainly concerned with the U.S.A. between 1939 and 1969 and found that consumption declined most in absolute terms and investment in relative terms, so that future productive capacity was hit most. He also found that

within social investment education and research suffered at the expense of defence expenditure. For Canada Russett found a positive relationship between defence expenditure and investment, although for the U.K. and France there was a negative correlation. The main criticism of Russett's results is that they are unduly influenced by the effect of the Second World War, but they also take no account of the statistical significance of the correlations.

There are two possible ways of looking at the costs of military expenditure. One way would be to determine the distribution of the burden of extra taxation that would be required to finance military expansion also taking account of any resulting inflation. This particular approach would require very detailed information not only on the structure of taxation and its impact at the margin, but also on the ability of different income groups to resist pressure on real incomes. Unfortunately this detailed information is not available for Turkey. The other way, which is the approach adopted here, is to break down the G.N.P. into its main components to see which of them bears the main brunt of military expenditure.

*Using data for Turkey over the period 1952-76 the various components of aggregate demand are expressed as percentages of G.N.P. and then regressed against the percentage of G.N.P. accounted for by defence. It is assumed that the first priority out of G.N.P. is defence,

so this is taken as the independent variable, and all other components treated as dependent on it. Changes in the defence burden cause or permit changes in the other components of aggregate demand. An increase in the defence burden must come at the expense of some other component of demand since in a formal sense the proportions must add to 100, but also in a country with scarce resources there is an opportunity cost of military spending. This does not deny that there may be some positive spin-offs from defence expenditure, which is considered later in the chapter.

The main components of G.N.P. are taken to be consumption, investment, government expenditure and net foreign trade. Consumption and investment can be broken down into public and private components, foreign trade into imports and exports, and government expenditure into education, health and social welfare and public works. Table 7.4 gives the R^2 (the proportion of variance in the dependent variables accounted for by defence) and the regression coefficients. In each case the dependent variable has been regressed on the defence burden, but included in each equation was a constant and a trend, as well as a dummy variable to pick up the effects of the invasion of Cyprus after 1974. The government expenditure categories Health, Public Works and Education are given a second set of R^2 s and regression coefficients which were estimated after each of the components was expressed as a proportion of the Total Budget and then

TABLE 7.4

The Effect of the Military Burden on Various
Components of Aggregate Demand
in Turkey, 1952-76

	<u>R²</u>	<u>Regression</u> <u>Coefficient</u>
Exports	0.109	0.419 (1.56)
Imports	0.450	1.649 (4.0)
Balance of Trade ¹	0.471	1.181 (4.2)
Total Investment	0.432	0.877 (3.9)
Public Investment	0.189	0.333 (2.2)
Private Investment	0.309	0.535 (3.0)
Health	0.000	0.000 (0.0)
Public Works	0.058	-0.063 (1.1)
Education	0.034	0.086 (0.8)
Total Consumption	0.004	-0.089 (0.3)
Public Consumption	0.151	0.357 (1.9)
Private Consumption	0.050	-0.447 (1.0)
Health*	0.084	-0.021 (1.4)
Public Works*	0.182	-0.099 (2.1)
Education*	0.024	-0.042 (0.7)

Notes: 1 = Imports-Exports
 * = As a proportion of the Budget
 R² = squared partial correlation
 t-value in brackets

regressed on defence expenditure as a proportion of total government spending. This second set of calculations was designed to determine the opportunity cost of defence within government expenditure.

The results show that the cost of defence expenditure is borne by a rising level of imports, which is also reflected in an increasing balance of trade deficit, by a cut in public works and by a decline in consumption, which is concentrated on the private sector. Within the total budget there is a negative relationship between defence and the other major components. Turning to the significance of these results it appears that defence expenditure occurs mainly at the expense of rising imports, a deteriorating balance of trade and a smaller share of public works in government spending, with 45 per cent, 47 per cent and 18 per cent of the variation in these variables being accounted for by changes in the defence burden. For the other components that have a negative regression coefficient the t-values are low so that it appears that defence spending has no systematic effect on them. On the other hand it does appear that defence spending has a positive and significant impact on investment and public consumption, although, perhaps surprisingly, it seems the effect on private investment is more pronounced than on public investment.

These results are not particularly surprising and

tell us very little about the influence of defence spending on growth. As it is the results presented in Table 7.4 do indicate some regularity in the pattern of resource movements between defence and certain components of aggregate demand, but causality is not established. What is required is an economic model which can pick up the dynamic links in an economic system between such variables as defence, savings/investment, imports, inflation and growth.

The Contribution of Benoit

A much more rigorous and interesting study of the relationship between military expenditure and economic growth is found in Benoit (1973).¹¹ For developed countries Benoit estimated that defence burdens were inversely correlated with growth rates (-0.2557), although this was found to be insignificant at the 0.05 level. He also found a negative relationship between defence and investment (-0.5114, with a t-value of 2.454) which led him to conclude that "in developed countries defence programmes compete more actively for resources with investment programmes, as would be expected since they are more capital intensive."¹² Benoit also argued that the manpower training benefits of military activity were less for developed countries since civilian education and training was better for acquiring civilian-applicable skills.

In his study of L.D.C.s, using data for 44 countries, between 1950-65, Benoit found the opposite pattern held. His main finding was that countries with a heavy defence burden had the most rapid rate of growth and vice-versa. He considered whether the relationship might have been due to defects in the data, but rejected this explanation even though he accepted that the validity of the data was in doubt. He also considered the possibility of a spurious relationship, but after further and more detailed analysis he believed it was unlikely.

Benoit stressed that there was a good probability that the interaction between the defence burden and growth rates was strong enough to make one a significant determinant of the other. On the question of the direction of the relationship Benoit found no significant correlation between income per capita and defence burdens, nor "were tax revenues, total government expenditure, or the ratio of defence to total government expenditures closely linked to the rate of economic growth."¹³ Furthermore, when he used multiple regression analysis, economic growth did not appear to be a significant determinant of the defence burden, rather it seemed to be primarily determined by military strategy requirements particularly with reference to national security. Benoit concluded that the chain of causation was such that the defence burden was a significant determinant of the growth rate and not vice-versa. If there were any adverse effects of a higher defence burden on growth these were more than

offset by the positive effects. The reason Benoit gave for this was that only a small part of L.D.C. non-defence expenditure went into highly productive investment, most of it went into consumption and the rest into social investment and the welfare state.

The main variables considered by Benoit were:

I = gross capital formation as a percentage of G.D.P.

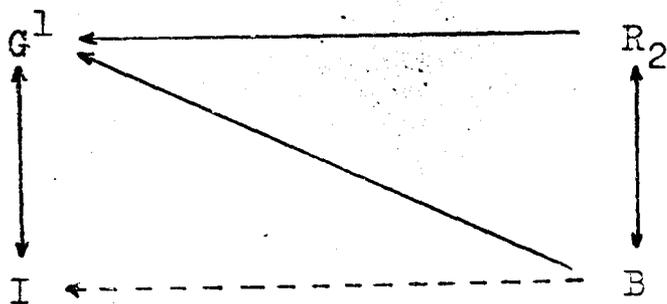
R = inflow of external resources, of which

R_2 = bilateral economic resources is the most important, as a percentage of G.N.P.

G^1 = civilian growth, taken to be growth of (G.D.P. minus defence expenditures)

B = defence burden

The pattern of causal relations among the main variables was assumed to be as follows:¹⁴



Benoit hypothesised that a reciprocal influence exists between R_2 and B, and G^1 and I, and that a positive but weak influence of B on I exists. It is also hypothesised that a strong positive influence of B on G^1 exists, as well as an indirect influence through R_2

and I, although Benoit admits that he has not been able to prove the direct influence of B on G.

In the multiple regression analysis carried out by Benoit the growth of civilian output was made a function of three independent variables - B, R_2 and I - and he obtained positive correlations with each. When the same equation is applied to annual data for Turkey between 1952-76 the following result is obtained:

$$G^1 = 15.66 - 12.484 I - 0.064 R_2 \\ \quad \quad \quad (0.25) \quad \quad (0.65) \\ - 1.399 B \\ \quad \quad \quad (1.4)$$

$$R^2 = 0.116 \quad \quad DW = 2.7$$

The equation is not well specified, since the R^2 is low, and none of the coefficients are significant, although, unlike Benoit, it is found that the coefficients are all negative. Nevertheless the result for Turkey may indicate that Benoit's findings, based on cross section analysis, do not apply to individual countries over time.

There are several criticisms of Benoit's study.^{15,16} First of all, he omits certain variables from the growth equation which might conceivably be important, such as the rate of inflation, the level of development, population growth, and the balance of payments deficit/surplus.

Secondly, Deger (1981)¹⁷ argues that the results that Benoit achieved are sensitive to the specification of the data and the variables used and when a different sample of countries is taken she finds a negative relationship between the defence burden and the growth rate of income per capita. She concludes that not too much weight should be attached to Benoit's results since the relationship between defence spending and growth at the cross section level could be negative. Finally, although Benoit allows for a reciprocal influence between R_2 and B , and I and G^1 in the pattern of causal relations, he does not incorporate this into his regression analysis. In effect he is implicitly assuming that the independent variables (I, B, R_2) in the regression analysis are exogenous, whereas he has previously admitted that there is a reciprocal relationship between I and G^1 . It is apparent in this case that the dependent variable G^1 is also an explanatory variable in the investment equation, but Benoit nowhere allows for this. What is required is that the growth equation be treated as being part of a larger model, for which there are as many equations as there are endogenous variables.

The specification of the causal links between defence spending and economic growth is the subject of the next section. It is not possible to develop a full model of the Turkish economy here but the main causal interconnections between growth and defence will be estimated by single equations.

Assessing the Impact of Defence Spending

Defence spending can influence the rate of growth through five main channels:

1. the multiplier effect
2. through a diversion of scarce economic resources
3. secondary economic effects
4. the political role of the military
5. through international economic relations

The theoretical links between defence, growth and these five channels are examined in the following sections and a series of ^{equations} are proposed which are used to estimate the effect of defence spending on economic growth.

1. The Multiplier Effect

Let us assume initially that the government of a hypothetical country introduces non-productive military expenditure which is financed through money creation. This can be shown in terms of the simple Keynesian income-expenditure identity

$$Y = C + I + D \quad (1)$$

where Y , C and I have their conventional meanings, and D is military spending. It is assumed for the moment that there is no foreign trade and non-military public expenditure is zero.

Furthermore, it is assumed that:

$$C = cY \quad (2)$$

$$S = Y - C = sY \quad (3)$$

$$\text{where } s = 1 - c \quad (4)$$

Solving (1) through (4) gives the reduced form for output

$$Y = (I + D)/s \quad (5)$$

Any increase in the autonomous components of aggregate demand (I and D) will have a multiplier effect (1/s) on income. Assuming initial excess capacity, output and employment will rise in a series of diminishing increments, until a new equilibrium income is achieved.

This basic Keynesian model needs to be extended to take into account the elasticity of supply in the productive sector, foreign trade, the responsiveness of investment to output and the effects of financing defence spending through taxation.

The introduction of a non-productive military sector which is financed through money creation may cause inflation to occur, although this will depend on the elasticity of supply of the industries providing military inputs. In the extreme case of output being fixed an increase in military demand will cause prices to rise, which will go on until ex-ante savings and investment are equal. In practice it is more likely that only some parts of the economy will have inelastic supply, with agriculture being the most likely. Kalecki (1955)¹⁸

has argued that it may be an uphill struggle for many L.D.C.s to increase the production of food. The feudal and semi-feudal relations in land tenure may require institutional change but this may be opposed by the privileged classes. Military activity is likely to draw labour away from the countryside but even if agricultural production does not fall¹⁹ there may still be a shortage of goods if the food consumption of the remaining peasants rises or if soldiers consume more food. Therefore increased defence spending may cause prices of agricultural goods to rise even though production of industrial consumer goods can increase in line with demand.

Kalecki also argued that higher food prices may result in higher profits for landlords, merchants or money lenders who may not expand their demand for industrial consumption goods, whereas if higher food prices result in higher peasant incomes then the demand for industrial consumption goods may rise, thus creating a larger market.

If foreign trade is introduced into the income-expenditure identity (1) becomes

$$Y = C + I + G + E - M + D \quad (6)$$

where E = exports, M = imports and G = non-military government expenditure. It will be assumed that investment responds to changes in output (profits may

also rise as output increases) as follows:

$$I = \dot{K} + \delta K \quad (7)$$

$$K = v Y \quad (8)$$

$$\dot{K} = v \dot{Y} \quad (9)$$

$$\text{therefore } I = v \dot{Y} + \delta v Y \quad (10)$$

where $\dot{Y} = dY/dt$, $\dot{K} = dK/dt$, $v =$ capital output ratio and $\delta =$ depreciation factor.

Exports are assumed to be autonomous and imports are given as follows:

$$M = m_1 C + m_2 I + m_3 D \quad (11)$$

from (2) and (10)

$$M = m_1 cY + m_2 v \dot{Y} + m_2 \delta v Y + m_3 D \quad (12)$$

solving through (6), (10) and (12)

$$Y = cY + v \dot{Y} + \delta v Y + G + E - m_1 cY - m_2 v \dot{Y} - m_2 \delta v Y - m_3 D + D \quad (13)$$

which can be rewritten as

$$Y = (1 - m_2) v \dot{Y} / a + (G + E) / a + (1 - m_3) D / a \quad (14)$$

where $a = s - \delta v + m_1 c + m_2 \delta v$

Equation (14) shows that output (Y) will respond positively to an increase in defence spending as long as there is excess capacity. The expansionary effects of increased defence spending will be greater the smaller

is m_1 , m_2 , m_3 and s , and the larger is δ and v . There will also be an indirect effect of military expenditure on the growth rate through the influence of increased output on investment. Whether investment can be stimulated from the demand side for L.D.C.s also depends on the existence of essential inputs of skilled labour, capital and foreign exchange.

The influence of increased defence spending on investment can be analysed in terms of two effects. On the one hand demand stimulation will increase the rate of capacity utilisation

$$u = Y/Y^* \quad (15)$$

where Y^* = capacity output from existing capital stock.

As the ratio Y/Y^* rises there is an incentive to invest, however, investment is constrained by absorptive capacity.²⁰ In order to implement investment projects there needs to be skilled labour, managerial expertise, key items of equipment and other vital inputs. As output expands and vital scarce inputs become even more scarce then capital formation is made more difficult although this may be partly offset by the availability of foreign exchange and the productivity effects of military spending in earlier periods. It is impossible to say theoretically whether the net effect of defence spending on investment is likely to be positive or negative, although it seems more likely that 'absorbative

capacity drag' will be stronger in L.D.C.s.

Finally it is necessary to consider the multiplier effects of financing defence spending through taxation. It seems likely that at least some of defence spending will be financed through taxation, which can impose a large financial burden on L.D.C.s at a time when there are pressures to spend more on other government activities. Military needs may lead to higher taxation which can affect incentives, resource allocation and equity, although these are difficult to quantify. It will be assumed that defence spending is financed completely out of taxation, and that there is no other non-military public expenditure. Furthermore, for simplicity, it will be assumed there is no foreign trade sector. The income-expenditure identity can then be written:

$$Y = C + I + D \quad (16)$$

The impact of an increase in defence spending on income can be shown to be:

$$\dot{Y} = \dot{D}/s \quad (17)$$

The tax multiplier depends on whether revenue is raised through a direct tax or an indirect (sales or expenditure) tax. If an indirect tax is imposed then the effect on income can be shown to be:

$$\dot{Y} = - \dot{T}_i/s \quad (18)$$

The balanced budget multiplier can now be derived

as follows:

$$\dot{Y} = (\dot{D} - \dot{T}_i)/s = 0 \quad (19)$$

since $\dot{D} = \dot{T}_i$

It is not unusual for the governments of L.D.C.s to collect revenue through indirect taxation,²¹ so (19) may seem an appropriate formulation of the balanced budget multiplier. There are two reasons, however, why the expenditure multiplier may be smaller than is shown in (17). Firstly, part of government defence spending goes to military personnel as wages and salaries, and if soldiers have a lower propensity to consume than other members of society then the multiplier will be reduced. Secondly, in so far as part of military needs are met through imported arms then there is an additional leakage from the system which reduces the impact of defence spending on income.

In conclusion it must be stressed that there can be no presumption of a positive multiplier effect of defence spending on output and growth in L.D.C.s. In particular the existence of market imperfections, a low elasticity of supply in food, a shortage of key inputs and a foreign exchange constraint may mean that military demand stimulation leads to inflation.²²

2. Diversion of Scarce Economic Resources

Economic models of growth generally emphasise the

relationship between output (income) and inputs. The role of inputs and technology in the growth process is given a theoretical basis in the Cobb-Douglas production function:

$$Q = A K^\alpha L^\beta$$

where K = capital

L = labour

A = technical progress²³

function

Since the Cobb-Douglas production function is linear in logs it is easily applied to studies of the rate of growth of output over time.²⁴

The importance of savings as a determinant of economic growth is recognised in the early attempts to theorise about growth by Harrod and Domar.²⁵ They were concerned with establishing the conditions for stable economic growth, but their growth equation does give some insight into the determinants of growth. They assume that investment (I_t) in any time period is equal to the capital-output ratio (v) times the change in output ($Y_t - Y_{t-1} = \dot{Y}$), and that for equilibrium to hold ex-ante savings (S_t) must equal ex-ante investment. This gives the following result:

$$I_t = S_t = v(Y_t - Y_{t-1}) = v\dot{Y} \quad (1)$$

If both sides are now divided by Y_t , then $S_t/Y_t =$ the savings rate, and $\dot{Y}/Y_t =$ the growth rate (g), then

$$s = vg \quad (2)$$

$$g = s/v$$

(3)

This equation defines the equilibrium conditions for steady economic growth. Nevertheless, this 'warranted' rate of growth need not be a full employment rate. The 'natural' rate of growth is determined by population growth and technical progress which may impose constraints on economic growth. In the case of LDCs, however, it is generally assumed that the maximum rate of growth is lower than the natural rate. Turkey is no exception (as is suggested in the estimations reported later), owing to the relatively rapid growth of population and the inability to raise savings to a sufficiently high level. Consequently in Turkey employment opportunities have not kept pace with the increase in the labour supply, not because of a lack of demand, but because investment (not merely in fixed capital but in all goods that may be necessary to increasing output) has not been sufficient.

Rostow (1964)²⁶ and Lewis (1954)²⁷ also recognise the importance of raising the savings rate to generate economic growth. As Lewis puts it:²⁸

"The central problem in the theory of economic development is to understand the process whereby a community which was previously saving and investing 4 or 5 per cent of its national income or less, converts itself into an economy where voluntary saving is running at about 12 to 15 per cent of national income or more."

Rostow too puts great emphasis on increasing the rate of saving:

"During the take-off the rate of effective investment and savings may rise from, say, 5 per cent of the national income to 10 per cent or more."²⁹

The important question for this study is how defence

spending will affect the flow of savings and hence the mobilisation of resources into productive investment. It is possible to approach this problem through an extended Harrod-Domar model. The basic model, as expressed in (3) has been criticised for its assumptions³⁰ and has undergone many refinements and extensions. It is proposed here that the basic model is extended to include a defence sector, a foreign trade sector and an investment function. We start with the basic income-expenditure identity:

$$Y = C + I + D + E - M \quad (4)$$

where Y , C , I , E and M are as conventionally defined, and D = defence spending.

It is assumed that consumption is a simple function of income

$$C = cY \quad (5)$$

The investment function is of the accelerator type,

$$I = v\dot{Y} + \delta vY \quad (6)$$

and imports are a function of the level of consumption, investment and defence spending

$$M = m_1 C + m_2 I + m_3 D \quad (7)$$

solving for (4) through (5), (6) and (7) gives the reduced form for output

$$aY = (1 - m_2)v\dot{Y} + (1 - m_3)D + E \quad (8)$$

where $a = s - \delta v + m_1 c + m_2 \delta v$

Therefore

$$(1 - m_2)v\dot{Y} = aY - (1 - m_3)D - E \quad (9)$$

$$\begin{aligned} \dot{Y} &= aY/(1 - m_2)v - (1 - m_3)D/(1 - m_2)v \\ &- E/(1 - m_2)v \end{aligned} \quad (10)$$

The rate of growth can now be written as:

$$\begin{aligned} \dot{Y}/Y &= a/(1 - m_2)v - (1 - m_3)d/(1 - m_2)v \\ &- E/(1 - m_2)v Y \end{aligned} \quad (11)$$

where $d = D/Y =$ defence burden.

It follows that with given $v, s, m_1, m_2, m_3, \delta$ and E an increase in the defence burden will reduce the rate of growth. It also follows from (11) that the higher is the propensity to import consumption and investment goods and the lower is the level of exports then the greater is the inflow of savings on the external account $(M - E)$, and the more rapid is the increase in income. Any receipts of foreign exchange through private capital flows, economic and military assistance would also be expected to increase total savings. Without going into this refinement any further, it should be pointed out that the two-gap theory argues that domestic savings and foreign exchange are not perfect substitutes, and this is not apparent in the extended Harrod-Domar model.

Moreover, it is by no means certain that domestic savings will remain unaffected by inflows of economic and military aid.

The inverse relationship between growth of output and the defence burden in (11) is due to the implicit assumption of full employment or a supply constraint. Increasing defence expenditure absorbs resources which are then denied to investment, consumption, education, health or urban development. Scarce labour, materials and capital are absorbed by the military which reduces the supply of other goods and services. This burden of military expenditure is recognised by several writers. Lewis (1970)³¹ has argued that the decline of the Ottoman Empire was caused at least partly by the increasing burden of the military and bureaucratic machine on state finances. One of the consequences was that higher taxes were imposed on agriculture which had deleterious effects on output and contributed to the decline of the Empire. Cipolla (1970)³² in "The Economic Decline of Empires" also stressed the negative effects of the military burden on economic growth. He argued that defence spending was a form of non-productive public expenditure, which through higher taxation reduced incentives, increased pessimism and discouraged investment. A similar argument is made by Bernardi (1970)³³ and Finley (1970)³⁴ who explain the decline of the Roman Empire in terms of increased militarism and the higher burdens this imposed on the state.

Yet this opportunity cost of defence is not always recognised particularly in writing which emphasises the role of the military as developers. Shorter (1967)³⁵ has argued that much writing on the military is characterised by a habit of thought which stresses only the benefits of those things which have happened, without discussing other benefits which have been forgone to achieve the former results. Yet it is valuable to speculate what might have happened because the habit of critical review may uncover alternatives which merit more general adoption.

On the positive side it has often been argued that military tension has led some countries to mobilise economic resources and speed up the rate of production. Rosa Luxemburg in the final chapter of 'The Accumulation of Capital' was concerned with analysing the ways that militarism may help the accumulation of capital. Firstly, she argued that military expenditure creates a need to raise taxes, which will partly be imposed on the peasantry. The peasants are thereby forced to sell some of their produce and in this way are incorporated into the sphere of capitalist production. Pre-capitalist modes of production are further undermined by the restructuring of final demand that occurs with militarism, as military inputs are produced with new technology in large-scale enterprises. Militarism also ensures a secure and growing market for arms producers, and the new industries can both help to stabilise the level of activity and act

as an engine of growth. Finally, militarism may lead to a redistribution of income towards profits as capitalists are allowed to depress wages and increase the rate of exploitation.

Benoit³⁶ cites the example of Israel where the psychological impact of external threat led the nation to co-operate more effectively and work harder. Kennedy (1975)³⁷ stressed the unique role of arms production in generating backward linkages to the manufacturing sector. It is also conceivable that in times of national crisis people may be willing to save more or to accept forced saving, with positive effects on growth. However, in the long run, outside a situation of war or military government, there is no reason to believe that either savings or hard work are determined by the level of military expenditure.

The extent to which military expenditure leads to increased employment and higher levels of economic activity depends partly on the strength of the backward linkages. Military demands for food will create few backward linkages since there are limited inputs required for primary industries. The strongest backward linkages might be expected to stem from military demands for manufactured goods, although the more specialised military needs - vehicles, aircraft, arms and electronic equipment - are more likely to create linkages abroad, particularly in the case of L.D.C.s, including Turkey.

Benoit³⁸ found some evidence to show that inflation, caused by a military build-up, can result in a substantial rise in the level of economic activity. He argued that unless the inflation is extreme it can succeed in pulling into economic use unused or under-utilised resources which contribute to real growth. Furthermore, he stressed that inflation can also stimulate growth through a redistribution of income towards profits, which might increase savings and investment. Nevertheless it is not at all clear that the long-run influence of inflation on savings and the mobilisation of resources will always be positive. Empirical evidence on the effects of inflation on growth is inconclusive,³⁹ although very high levels of inflation appear to have a harmful effect on economic growth, perhaps because it may lead to speculation, discourage voluntary saving or cause a mis-direction of capital formation.⁴⁰ Furthermore, when inflation occurs simultaneously with unemployment and heavy balance of payments deficits, as in Turkey in the 1970s, military expenditure can hinder economic policies designed to lead out of the recession. Military expenditure creates demand but does not increase the volume of saleable or exportable goods and therefore adds to inflationary pressures and balance of payments problems, which may require the government to contract other elements of public expenditure, thus causing a deeper recession and higher unemployment.⁴¹ In Turkey casual observation would suggest that inflation, and the subsidisation of

capital, also led to an excessive allocation of resources into consumer goods industries with consequent long term adverse effects on growth and development.

There is another possible link between defence spending and economic growth relating to the coercive power of the military, which may be used either directly or indirectly to support the state to increase the rate of exploitation of available resources. Deger and Smith give several examples of how this may be achieved.

"Surplus labour may be mobilised, raw material production developed in the face of opposition, agrarian surplus transferred to industry, consumption restricted, industrial disputes suppressed and the rate of work increased."⁴²

In conclusion it must be stressed that defence spending may be an important channel through which resources are mobilised, yet this has to be posed against the long run diversion of resources, away from savings and productive investment, which occurs with military expenditure. Theoretical analysis cannot resolve the issue as to which is the most important influence, but theory can give some insight into the links between military spending and resource diversion/mobilisation. Several influential models of growth and development have emphasised the role of savings in economic expansion and it seems important, therefore, to look at the empirical relationship between growth, savings and the defence burden in the case of Turkey.

3. Secondary Economic Effects of Defence Spending

Defence spending may contribute to the civilian economy in several indirect ways that need to be considered. Benoit⁴³ argued that defence programmes make tangible contributions to civilian economies by (1) feeding, clothing and housing a number of people who would otherwise have to be fed, housed and clothed by the civilian economy; (2) providing education and medical care as well as vocational and technical training (e.g. in the operation and repair of cars, planes and radios; in hygiene and medical care; in construction methods) that may have high civilian utility; (3) engaging in a variety of public works - roads, dams, river improvements, airports, communication networks - some of which may have civilian uses; (4) engaging in scientific and technical specialities, as well as certain quasi-civilian activities such as coast guard, lighthouse operation, customs work, border guard, and disaster relief which would otherwise have to be performed by civilian personnel. Military procurement may make possible the production of certain manufactured items for combined civilian and military use (e.g. batteries and tyres) which might not be economically produced solely for civilian demand.

The military establishment may also be an important force for modernisation in L.D.C.s. It is often the vehicle for importing and adapting Western ideas and technology, and because it is utilitarian and efficiency oriented it helps implant modern attitudes towards time

keeping and self-discipline. Furthermore, military training is often very important in breaking down custom and tradition, and replacing local interest with a national consciousness.

Unfortunately it is very difficult to obtain direct evidence of the effectiveness of military activity in providing these civilian spin-offs and even more difficult to measure their contribution to growth. Robinson (1967)⁴⁴ gives details of the Turkish army engaging in basic education to deal with the cases of illiterate conscripts, but this did nothing for female illiteracy and the problem of secondary schooling remained. The military training programme in Turkey began in 1948 with the start of American military aid, and in addition to learning technical skills, conscripts also acquired a new outlook on life. However, there is the danger of exaggerating the contribution of the military in the field of education. Many new skills learnt in the army may be inappropriate for civilian employment. Shorter⁴⁵ has pointed out that the contribution of the military in tackling illiteracy was small and declining relative to the importance of other educational institutions. Only about 3 per cent of rural males who became literate during the decade ended 1962 learnt their skill in the army. Furthermore, military education in Turkey largely failed to enhance the social and economic mobility of the poor and minority groups.

Closely related to military investment in education is military research and development. Scientific effort designed to develop new military tools has led to rapid achievements in the production of certain civilian goods.⁴⁶ In the U.S.A. two thirds of all research and development work is financed by the Department of Defence, N.A.S.A. and the Atomic Energy Commission, but although the resulting spillover effects may be important for the U.S. they are not particularly important in the case of Turkey, where only 0.03 per cent of military expenditure goes to r. and d.

Military expenditure on public works is more likely to have spillover effects in developing countries. It was argued in chapter 6 that the military in Turkey has helped to build public works such as roads, ports and airfields which are valuable for civilian activities. The highway programme was a case when an integrated transport system was beneficial to both the military and the general development of the country. Once again, however, it is easy to magnify the contribution of the military who financed less than 1 per cent of the highway programme in Turkey over the period 1948-60. Military needs convinced the U.S. and Turkish governments that it was necessary to develop the highway system, but the economic resources were absorbed and the task of road construction was performed by the civilian highway administration. It might even be argued that the highway programme was a case when the civilian developers provided

a service which was directly beneficial to the military and not the other way round. Alternatively, the road programme, even though financed from the civilian budget, could be treated as part of the defence expenditure. In this case the question arises as to the developmental impact of the road building programme and whether the resources could have been used more effectively on other investment projects.

There is a considerable body of literature which questions the developmental value of military activity. Frey (1963)⁴⁷ expresses doubts on the contribution of the military in the absence of more research work. Polk (1964)⁴⁸ argues that not enough is known about soldiers when they return to civilian life. Many skills acquired by military personnel may be inappropriate, so that the contribution of the military is exaggerated. Glick (1967)⁴⁹ cites the case of Turkish recruits trained as typists and then returned to villages where there were no typewriters. Janowitz (1965)⁵⁰ has argued that the importance of the military on non-military projects is more symbolic than economic.

The issue over military spin-offs raises a more general point about the role of the military in development. If a country wishes to achieve specific developmental goals then the activity of development itself will make a more powerful contribution than the military through secondary benefits. It is not sufficient to claim, as

Benoit does, that a military programme contributes to the civilian economy by "feeding, clothing and housing a number of people", since there is an opportunity cost involved which has not been specified.

4. The Political Role of the Military

There may be a unique role for the military in L.D.C.s, not only in the independence struggle, but also in the early years of independence in order to ensure the necessary stability and pre-conditions for economic development to take place. In times of great turbulence the military has access to power and can provide the political leadership to maintain internal stability and overcome pluralistic conflict. Some writers⁵¹ have stressed that the military is the one institution in L.D.C.s that is likely to be Westernised and able to introduce modern political and social structures.

In Turkey in the early 1920s Kemal, the soldier-cum-President, created a regime that was Republican, secular and non-imperialist. The emphasis on nationalism and the rejection of the monarchy and religion after 1923 were essential elements in the plan for development, but it was a controlled development which gave a leading role to the state and its bureaucracy, including the military. It is important, however, to distinguish between 'military men' and the 'military organisation'. In twentieth century Turkey several military men have

become prominent politicians (Kemal Ataturk, Ismet Inonu, Cemal Gursel), yet it was these same men that insisted that control should lie with civilian government and that the military organisation be concerned with its own areas of operations.

There can be no denying that the military in Turkey have been the last line of defence within the state apparatus, managing to keep a precarious balance between the extreme right and the labour movement only through direct intervention on three occasions since 1950. Furthermore, it must be recognised that the military in Turkey is not ideologically neutral, but is concerned with maintaining the status quo, which may have prevented it from encouraging a more progressive economic and social transformation of society.

5. International Economic Relations

The links between domestic military expenditure, military and economic aid, private foreign capital flows, foreign trade, and development are extremely complex and were the subject of the last chapter. It was argued in chapter 6 that military and economic aid are complementary and, in the case of Turkey, were only given on the condition that she committed substantial domestic resources to defence. High levels of military expenditure may have been instrumental in maintaining security from external threat and achieving internal stability, both essential

conditions for the encouragement of private investment. Against this it was argued that U.S. military and economic assistance to Turkey was in a 'tied' form, very often expensive, primarily designed to meet American foreign policy objectives, and not always appropriate to development goals. U.S. political influence in Turkey also ensured that the economy was opened up to international flows of private capital.

Under certain conditions the flows of aid and private foreign capital may help to overcome a shortage of domestic resources and facilitate the transfer of technology, and thereby stimulate development. But there are dangers too - the technology may not be appropriate for L.D.C.s and create few jobs; aid flows may discourage domestic savings; private foreign investment may do little to stimulate exports or to break the dependence on imports of capital goods; and the repatriation of profits and the debt-servicing burden may create serious balance of payments problems. Furthermore, military assistance programmes may encourage the growth of the arms trade, and set up a chain of supplementary import demands which also absorb scarce foreign exchange and impose constraints on the direction of domestic economic policy.

Econometric Results

The preceding sections have considered the five channels through which military expenditure is likely to

influence economic growth. It has been argued that military expenditure will have a direct influence on growth through demand stimulation, although the strength of the multiplier-accelerator effect will depend on absorptive capacity and how the expenditure is financed. Military expenditure may also have a direct effect on growth through resource mobilisation, through new ideas and technology, and via the military as an institution breaking down traditions and being a force for stability and modernisation. Military expenditure would also be expected to have certain indirect effects on economic growth through the diversion of resources away from savings (investment) both directly and via inflationary pressures, balance of payments constraints and the flow of economic aid.

The main objective of the regression estimates is to test the relationship between the military ratio (or burden) and economic growth. The military ratio is taken as the share of military expenditure in gross domestic product and the growth of the economy is measured by the annual real growth of gross national product. There is a question that arises about the appropriateness of these two measures. The military ratio could be taken as the share of military expenditure in GNP rather than GDP. The difference between GNP and GDP is the net earnings and payments on property from abroad, and the issue that concerns us in this study is the domestic burden of military expenditure, so it is appropriate to take the ratio of military expenditure to GDP. The measure of economic growth on the other hand is based on GNP since it is hypothesised that military activity might generate flows of trade, aid and capital, the consequences of which are more accurately picked up by the growth of GNP. As it turns out it makes very little difference to the results whether GDP or GNP is used to measure either the burden or economic growth, since the two series move so close together. It

was also decided to measure economic growth by Benoit's civilian GDP, that is the growth of GDP after subtracting defence expenditure, but this too made little difference to the results and is not reported.

Initially it was decided to test the growth rate as a function of the defence burden using ordinary least squares. Two equations were estimated in order to evaluate the magnitude of the main direct and indirect responses of growth to the defence proportion. The first equation treats growth as a function of the savings ratio, which is taken as the prime engine of growth, (or could be taken as a proxy for investment); the defence proportion, which is used to pick up the demand stimulation and resource mobilisation effects, and is also a proxy for the modernisation effect; gross domestic product per capita, which is used as an index of development and reflects the ability of a country, as it develops, to apply the available technology generated in the more developed countries; the growth of population, which picks up the effect of the changing number of dependents or may be a (crude) proxy for labour supply; and the flow of US economic aid as a proportion of GNP, which picks up the effect of foreign aid flows on domestic growth. In the second equation the savings ratio is made a function of the defence proportion, which picks up the resource diversion effect; the growth of national product; gross domestic product per capita, again as a measure of development; US economic aid as a proportion of GNP; and the rate of inflation.

Using annual data for Turkey between 1952 and 1976 the following results were obtained:

$$(1) \quad gNP = 22.8 \quad -1.255 s \quad -0.185 X/GDP \quad +0.004 GDPC \quad -0.932 gPOP$$

$$\quad \quad \quad (2.2) \quad \quad \quad (1.8) \quad \quad \quad (2.5) \quad \quad \quad (0.5)$$

$$\quad \quad \quad -0.101 AINP$$

$$\quad \quad \quad (1.0)$$

$$R^2=0.336 \quad S=3.012 \quad ME=5.988 \quad DW=2.9$$

$$(2) \quad s = 13.4 \quad -0.104 X/GDP \quad -0.165 gNP \quad +0.002 GDPC$$

$$\quad \quad \quad (3.2) \quad \quad \quad (2.1) \quad \quad \quad (5.7)$$

$$\quad \quad \quad -0.094 AINP \quad +0.007 P$$

$$\quad \quad \quad (2.8) \quad \quad \quad (0.2)$$

$$R^2 = 0.867 \quad S=1.116 \quad ME=14.629 \quad DW=1.8$$

where: gNP = the real growth rate of national product
s = the savings rate (S/GDP)
X = Turkish military expenditure
GDP = gross domestic product
GDPC = gross domestic product per capita

gPOP = annual growth rate of population
AINP = US economic aid as a proportion of national product
P = rate of inflation
with t-values in brackets.

The growth equation is not well defined and there is evidence of negative serial correlation. There is surprisingly, a negative relationship between growth and the savings ratio, which is significant, but, as equation (2) makes clear, causality is not established. The coefficient on the defence proportion is negative and significant and suggests that military expenditure depresses growth. Gross domestic product per capita is positively related to growth, although, once again, causality has not been established, and the positive coefficient may simply reflect the common link with GDP. On the other hand the coefficient on US economic aid is not significant, nor does it appear that the growth of population influences economic growth in any systematic way. If the growth of population is taken as a proxy for the growth of the labour force, albeit a barely adequate one, then the coefficient may simply reflect a surplus labour economy.

The savings equation (2) is well defined with a high R^2 , and the coefficient on military expenditure is negative and significant. The growth of national product and US economic aid as a proportion of GNP are both negatively related to the saving ratio, with both coefficients significant. Gross domestic product per capita has a positive effect on savings but inflation does not appear to influence the savings ratio.

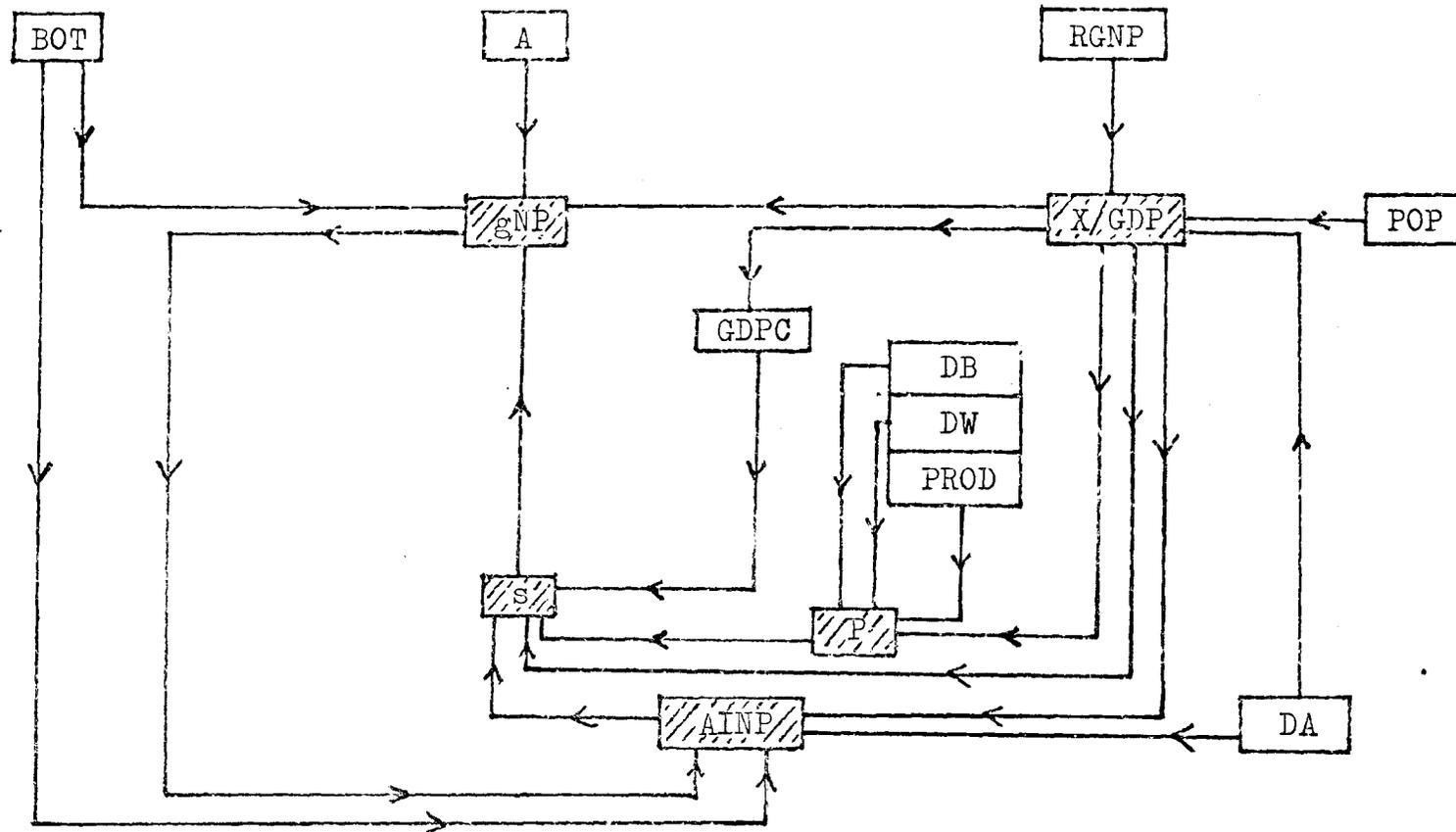
Overall the results are inconclusive, and the growth equation in particular needs to be modified. Part of the problem is that the dependent variables need to be estimated within a model which treats them as a function of both exogenous and endogenous variables in a dynamic simultaneous system, in which case ordinary least squares would no longer be legitimate.⁵² However, given the present limited availability of economic and social statistics on Turkey it is not possible here to develop a full macro-economic model of the Turkish economy, which could be used to measure the magnitude of the causal links between the defence ratio and economic growth. If the links between the defence ratio and the growth of GNP were not directly related to the remainder of the Turkish economy then the defence sector could be treated as a separate self-contained segment and estimated in a small scale model. It is quite obvious,

however, in the context of a Keynesian type model, that the defence sector does not form a separate compartment of the Turkish economy, so that it would be inappropriate to treat it as such. Given these difficulties all that can be done here is to select the most important causal interconnections and then try to estimate the size of the responses. In effect this amounts to estimating a series of single equations which should ideally be treated as part of a much larger model of the Turkish economy.

In order to overcome the bias and lack of consistency in ordinary least squares the causal interconnections are estimated by two-stage least squares using a first order autoregressive scheme to allow for any autocorrelation of the error term. In macro-economic models a distinction is normally made between those variables that are given exogenously and those which are taken to be endogenous. In practice the distinction is inevitably blurred and the classification is a relative one depending upon the system being studied and the purpose for which the model is being built. This raises particular problems when single equations only are being estimated (rather than the complete model) since within those equations certain variables may need to be treated as if they were exogenous when within a full scale model they would be regarded as endogenous. There were special difficulties in the estimations carried out here because the annual data used between 1952 and 1976 generated only 23 usable observations which limited both the number of variables that could be treated as endogenous and the number of instrumental variables. Nevertheless, although some of the bias and inconsistency caused by the correlation of the disturbance term with some of the explanatory variables can be overcome by treating some of them as endogenous and using two-stage least squares the results have to be interpreted with great care and cannot be regarded as providing conclusive evidence on the impact of defence spending on economic growth.

The pattern of causal relations among the main variables considered is assumed to be as presented in Figure 7.1. The growth of national product is made a function of the savings ratio and the defence ratio as in equation (1) but instead of using gross domestic product per capita as an index of development it was decided to use the percentage of the labour force engaged in agriculture (A), which also picks up the productivity effect as labour moves from (inefficient) agriculture to the efficient (industrial) sector. The balance of trade deficit

FIGURE 7.1 Flow Chart of the Causal Interconnections between Growth and the Military Burden



Note: The arrows indicate causal links. The shaded boxes contain endogenous variables. Symbols as defined in the text.

(BOT) is also used as an explanatory variable since it generates foreign savings but may on the other hand impose certain constraints on domestic economic policy and, through that, on economic growth. The growth of national product, the savings ratio and the defence ratio are taken as the endogenous variables. It is normal in macro-economic models to treat public authorities' current expenditure and fixed investment as exogenous, in the sense that these demands are not explained within the model. However, in this case, because of the central importance of defence spending, one of the equations (7) that is estimated attempts to quantify the determinants of the defence ratio, which makes it an endogenous variable. There can be no theoretical justification for treating either A or BOT as exogenous to the Turkish domestic economy but the limited number of observations made it necessary, although this did not appear to distort the results.

The savings ratio, as was pointed out, is also treated as an endogenous variable and is made a function of the defence ratio, which picks up the resource diversion effect; the rate of inflation (P); the gross domestic product per capita (GDPC), which is a measure of the level of development; and US economic aid as a proportion of GNP (AINP), which is included to pick up the effect of foreign aid flows on domestic savings. The variables P and AINP are taken as endogenous since they are both channels through which the defence ratio may influence savings and hence growth. There can be no theoretical justification for treating GDPC as exogenous, particularly given the close connection of this variable with growth of GNP, but the limited number of observations made it necessary for estimation purposes and this did not cause any bias or inconsistency in the results.

The rate of inflation is assumed to be a function of the defence proportion or ratio, which reflects the effect of supply rigidities; a dummy variable (DB) to pick up the influence of devaluation, which, in the estimation, takes a value of 1 in years when devaluation occurred and zero in all other years; the level of wage increase (DW); and changes in the level of productivity (PROD). The variables DB, DW and PROD are all assumed to be exogenous, mainly because the limited number of observations made it necessary for estimation purposes, but in any case they differ from P in that they are not assumed to be

channels through which the defence ratio influences savings.

US economic aid as a proportion of GNP is assumed to be a function of the defence ratio, the balance of trade deficit and a dummy variable to pick up the arms embargo of 1975 and 1976. The dummy variable can legitimately be regarded as exogenous but as was pointed out previously this is not entirely satisfactory for the BOT variable.

The defence ratio is treated as a function of the gross domestic product per capita; the reciprocal of the gross national product, (RGNP) which reflects the influence of scale economies on military needs; the level of population; and a dummy variable to pick up the effects of the Cyprus invasion of 1974. As the defence ratio is assumed to be the last link in the chain of variables explaining growth the explanatory variables (of defence) are assumed to be exogenous and the equation was estimated by ordinary least squares.

Using annual data for Turkey between 1952 and 1976 the assumed endogenous variables were estimated with the following results:

$$(3) \quad \text{gNP} = -10.57 + 0.335 s - 0.47372 X/\text{GDP} \\ \quad \quad \quad \quad \quad (0.4) \quad \quad \quad (2.7) \\ \quad \quad \quad + 0.392 A + 2.085 \text{BOT} \\ \quad \quad \quad \quad \quad (0.9) \quad \quad \quad (2.1) \\ \text{Chi (7)} = 14.35426 \quad \quad \quad \text{DW} = 1.7$$

$$(4) \quad s = 7.25 - 0.4549 X/\text{GDP} + 0.007 P + 0.003 \text{GDPC} \\ \quad \quad \quad \quad \quad (1.2) \quad \quad \quad (0.1) \quad \quad \quad (6.9) \\ \text{Chi (8)} = 13.23907 \quad \quad \quad \text{DW} = 1.3$$

$$(4') \quad s = 15.69 - 0.15 \text{AINP} - 0.91 X/\text{GDP} + 0.0017 \text{GDPC} \\ \quad \quad \quad \quad \quad (3.7) \quad \quad \quad (2.9) \quad \quad \quad (3.7) \\ \text{Chi (7)} = 4.7863 \quad \quad \quad \text{DW} = 2.3$$

$$(5) \quad P = -0.279 + 0.70924 X/\text{GDP} + 7.067 \text{DB} + 0.4 \text{DW} - 0.511 \text{PROD} \\ \quad \quad \quad \quad \quad (0.6) \quad \quad \quad (3.7) \quad \quad \quad (3.3) \quad \quad \quad (1.4) \\ \text{Chi (8)} = 13.17825 \quad \quad \quad \text{DW} = 1.9$$

$$(6) \quad \text{ANP} = -15.71 + 0.695 \text{ X/GDP} + 0.42 \text{ gNP} - 1.32 \text{ BOT} - 21.21 \text{ DA}$$

$$\quad \quad \quad (1.4) \quad \quad \quad (0.4) \quad \quad \quad (0.8) \quad \quad \quad (1.4)$$

$$\text{Chi (7)} = 15.47712 \quad \quad \quad \text{DW} = 0.7$$

$$(7) \quad \text{X/GDP} = -0.184 - 0.00001 \text{ GDPC} + 7.6 \text{ RGNP}$$

$$\quad \quad \quad (3.0) \quad \quad \quad (3.9)$$

$$\quad \quad \quad + 0.0067 \text{ POP} + 0.025 \text{ DA}$$

$$\quad \quad \quad (3.7) \quad \quad \quad (7.2)$$

$$R^2 = 0.883 \quad S = 0.0029 \quad \text{ME} = 0.049 \quad \text{DW} = 1.4$$

The results are interesting and provide some support for the O.L.S. results, although they leave much to be answered. One general point that needs to be made is that the enforced exogenisation of the BOT, A, DW, PROD, RGNP and GDPC variables did not lead to any undue distortion in the results as is indicated by the Chi-square statistics. In the growth equation (3) the Chi-square statistic^{53, 54} confirms the validity of the specification and the Durbin-Watson statistic indicates insignificant serial correlation, but it is clear that the equation has by no means adequately determined the complex process of growth. The coefficient on the defence ratio is negative and significant at the 1% level, which once again points to a depressing effect on growth. In the 'unrestricted estimates' (not reported) the coefficient on the defence burden lagged one year was positive but not significant at the 5% level, so that there is no evidence to indicate that any demand stimulation effects manifest themselves within a year, although it is possible that a year is too short a time lag, in which case equation (3) may be incorrectly specified. The coefficient on savings is positive as one would expect (unlike the O.L.S. estimate), but it is not significant at the 5% level, while in the 'unrestricted estimates' the coefficient on saving lagged one year is actually negative, although once again not significant. In view of the theoretical importance of the savings ratio in the growth process this result must be interpreted with care. It is possible that domestic saving is not a good proxy for investment or that a longer lag needs to be allowed for. There is also a positive coefficient on the balance of trade deficit which is significant at the 5% level and suggests that any indirect negative effects on growth through domestic economic policy constraints are more than outweighed by the direct contribution of imports to growth. In the 'unrestricted estimates' (not reported) the coefficient on the balance of trade deficit lagged one year was also positive, but not significant, and in view of the level of worker remittances after the

mid-1960s it must be concluded that there is no evidence of the external position constraining growth up to 1976. Finally, the coefficient on A (the percentage of the labour force engaged in agriculture) is positive, which suggests it is not a good proxy for the level of development, nor does it indicate any productivity gain as labour shifts from agriculture to industry.

The savings equation (4) is well specified and indicates a negative effect of the military ratio on savings, although unlike the O.L.S. estimates the coefficient is not significant at the 5% level. Savings also increase with the level of gross domestic product per capita, and the coefficient is highly significant. The coefficient on the rate of inflation is also positive, but not significant, so that it appears that inflation has had no systematic influence on the saving ratio in the period 1952-76. This result makes the inflation equation (5) redundant, since it is hypothesised that there is an indirect effect of the military ratio on savings through inflation, but this has not been established. The inflation equation is well specified and does indicate a positive influence of the military ratio on the price level but the coefficient is not significant. It appears that the main determinants of the inflation rate are changes in wages, the growth in productivity and the external value of the currency.

A second version of the savings equation (4') proved to be very well specified. In this version the coefficient on the defence ratio is once again negative, but significant at the 1% level, indicating a depressing effect on the domestic savings ratio. The coefficient on AINP is negative and also significant, thus indicating a harmful effect on domestic savings. Gross domestic product per capita has a positive coefficient and is highly significant as in the other version.

In equation (6) AINP is positively related to the defence ratio although the coefficient is not quite significant at the 5% level. The coefficients on the balance of trade deficit and the invasion dummy variable are both negative, but they too are not significant. It also seems that the growth of national product has no systematic impact on the flow of US economic aid. Clearly AINP appears to be determined by factors outside the Turkish domestic economy, and must therefore be regarded as exogenous.

The defence ratio equation (7) is well specified and indicates a positive influence of RGNP, population and the invasion dummy variable, while the coefficient on gross domestic product per capita is negative and also significant. Apart from the influence of GDPC this equation may be interpreted as confirming that the defence ratio is determined mainly by exogenous variables, although the influence of strategic factors is not specifically allowed for.

In order to determine whether military expenditure has had the same impact on different sectors of the economy it was decided to disaggregate the growth equation into the growth of agriculture, industry and construction. The results are as follows:⁵⁵

$$(8) \quad gAGR = -43.9 \quad -0.144 \quad s \quad -5.414 \quad X/GDP \quad + \quad 0.708 \quad A \\ \quad \quad \quad (0.1) \quad \quad \quad (2.3) \quad \quad \quad (1.3) \\ \quad \quad \quad + \quad 14.696 \quad M/E \quad -0.015 \quad AINP \\ \quad \quad \quad (3.0) \quad \quad \quad (0.7) \\ R^2 = 0.385 \quad S = 6.02 \quad ME = 3.1 \quad DW = 2.2$$

$$(9) \quad gIND = 88.27 \quad -2.004 \quad s \quad -0.703 \quad X/GDP \quad -0.481 \quad A \\ \quad \quad \quad (2.5) \quad \quad \quad (0.5) \quad \quad \quad (1.4) \\ \quad \quad \quad -2.828 \quad M/E \quad -0.436 \quad AINP \\ \quad \quad \quad (0.9) \quad \quad \quad (3.2) \\ R^2 = 0.382 \quad S = 3.792 \quad ME = 9.296 \quad DW = 2.7$$

$$(10) \quad gCON = 69.77 \quad -2.18 \quad s \quad -1.819 \quad X/GDP \quad -0.149 \quad A \\ \quad \quad \quad (1.5) \quad \quad \quad (0.7) \quad \quad \quad (0.3) \\ \quad \quad \quad -0.759 \quad M/E \quad -0.676 \quad AINP \\ \quad \quad \quad (0.1) \quad \quad \quad (2.8) \\ R^2 = 0.313 \quad S = 6.795 \quad ME = 6.792 \quad DW = 2.9$$

where $gAGR$ = the annual growth rate of agricultural output in real terms
 $gIND$ = the annual growth rate of industrial output in real terms
 $gCON$ = annual growth rate of construction in real terms
 M/E = the ratio of imports to exports

The coefficient on the defence ratio is negative in all three equations but is only significant in the growth of agriculture. A

possible explanation for this is that agricultural output is determined mainly by supply and climatic factors and the expansion of defence diverts resources away from that sector⁵⁶ which slows down the rate at which new technology is introduced, but more detailed evidence on this is required. The coefficient on AINP is also negative in all three equations and is significant in the growth of industry and construction. This result may be related to the kind of technology imported with US economic assistance and may be taken as tentative evidence in support of the findings of McCabe and Michalopoulos (1971).⁵⁷ The only other coefficient which is statistically significant is that on savings in the growth of industry equation. The negative coefficient on the savings ratio may be due to the dependence of industry on the growth and level of domestic consumption which would give an inverse relationship with savings. The specification of equations (8) (9) and (10) is not, however, satisfactory and the R^2 is low and the S/ME high in each case. Clearly the growth of components of national product cannot be adequately explained in terms of macroeconomic variables alone and the results as a consequence are not very meaningful.

Conclusion

The results presented here must be viewed with caution. Data, time and resource limitations have meant that the lines of causal interconnections have had to be estimated by single equations rather than within a full macroeconomic model of the Turkish economy. Furthermore, the relatively short observation period (1952-76) limited the number of variables that could be treated as endogenous within the single equations (3) to (6) estimated, which meant that several explanatory variables had to be treated as exogenous even though this could not be justified on theoretical grounds within the context of a full model. The growth equation in particular turned out to be inadequately specified and was unable to capture the complexity of the underlying growth process, which may have accounted for the peculiar coefficient on the savings ratio. Economic theory would

indicate that the introduction of lags in the growth equation might improve the coefficient of determination, but this could only be done at a price since the number of usable observations would have been reduced further.

These qualifications notwithstanding, the results may be interpreted as showing that the defence ratio has had a negative impact on the growth of national product so that it is appropriate to talk of the defence burden. The estimations indicate a strong negative direct influence of the defence ratio on growth which implies that the demand stimulation and resource mobilisation channels had a net drag effect on the economy. Increases in the military ratio or burden were more likely to lead to greater imports, higher prices, increased taxes and cuts in public works, rather than expanded output. Changes in the military ratio also seem to have had a negative indirect impact through the savings channel due to resource diversion and also possibly via the flow of US economic aid, although there is no evidence of inflation having caused a decline in savings.

CHAPTER 8

CONCLUSIONS

The importance of defence spending in the allocation of resources in Turkey in the post-war period has been almost totally ignored. Yet Turkey has committed about five per cent of her gross domestic product and over 20 per cent of total government spending to defence since 1950, which represents considerable scarce resources for a country whose per capita income in 1978 was only about one seventh of that for the industrialised world and whose people have suffered from serious long term economic and social deprivation.

This study has argued that the level and form of military resource consumption in Turkey can only be partly understood in terms of internal and external security objectives. The military as an institution also performs an ideological function which is closely connected with the integration of the military into the industrialisation process. The Turkish army through the Armed Forces Mutual Assistance Fund (OYAK) has become one of the largest conglomerates in the country so that the military concern for industrialisation is one of self-interest which is consistent with the interests of the capitalist class. Furthermore, the level of military spending needs to be understood in relation to U.S. foreign policy. American military and economic aid to Turkey was only given on

the condition she allocated vast domestic resources to defence, because the Turkish military as an organised force was given a major role in the struggle against Communism and in ensuring that the conditions that allowed capitalist expansion to take place were satisfied. By creating and maintaining the conditions under which international capital could operate the military facilitated the transfer of resources towards the 'metropolis' and indirectly influenced the form of industrialisation. The Turkish economy became highly dependent on the economies of the industrialised countries, which ultimately imposed enormous constraints on further growth in the mid 1970s.

After the U.S. arms embargo in 1975 had brought a temporary halt to military aid Turkey was forced to 'purchase' her arms on the world market, and this began to exacerbate the already serious foreign exchange problem. One of the consequences of the embargo was that Turkey unveiled a new defence policy designed to make her self-sufficient in arms production. It has been argued in this study that arms production would be unlikely to reduce the need for foreign exchange in the short-run, would do little to reduce unemployment, and would almost certainly replace one form of dependency by another. Moreover, arms production has an uncertain and limited market and it would absorb scarce resources which would, therefore, be denied to other civilian productive activities.

The most important issue for this study concerns the resource allocational consequences of military expenditure for economic progress. At one level it has been argued that Turkey has failed to resolve the many deep rooted structural and institutional problems and economic and social imbalances that faced the country in 1950 which can partly be explained by the role of the military in Turkey. The consequences of military expenditure for economic growth is a very complex issue for which there is no general answer. It has been argued that it is essential to go beyond establishing statistical correlations between growth and the defence burden, which could be spurious, but rather it is necessary to formulate the various links between the military burden and the growth rate at the theoretical level and then try to estimate them in the context of a model of growth. The causal links ^{theorised} in chapter seven go some way towards meeting these requirements since the impact of defence spending on growth is estimated both directly and indirectly through the savings ratio, the rate of inflation, the balance of trade and the flow of economic and military aid. Yet because of the paucity of data available on the Turkish economy and the international arms trade the equations that ^{are} estimated in chapter seven are only partial and much of the underlying transmission mechanism is concealed, which makes it difficult to separate the various mechanisms through which defence spending affects the economic structure and impossible to

test the validity of the results. Nevertheless, until more detailed data becomes available decisions have to be based on existing information and the results reported in chapter seven do point to a trade off between guns and growth.

The Cyprus Invasion

The econometric results reported in chapter seven suggest that the invasion of Cyprus and the dispute over the Aegean in 1974, when Greece and Turkey almost came to war, would have serious consequences for the Turkish economy. In 1974 the total armed forces of Turkey (453,000) were almost three times as large as the Greek forces (161,200), but in terms of the quantity and sophistication of the weapons possessed by the two sides the gap was not so pronounced. In terms of air power, for example, Turkey had one F-4E Phantom squadron, two F-104G Starfighter squadrons, four F-100D squadrons, two F-5A squadrons, two F-104S squadrons and two F-84F squadrons against Greece's two F-4E, four F-84F, two F-104G and two F-5A squadrons. Furthermore, during 1974 Turkey had committed two divisions to Cyprus and had more of an internal security problem than Greece, and needed to guard her frontiers with the U.S.S.R., Iran and Iraq. Turkey was certainly not satisfied with the military balance and in 1975 a Fourth Army (the Army of the Aegean) was created.

In the short-run the invasion of Cyprus cost Turkey over \$500 million in mounting the military offensive, but there were also temporary indirect costs as the fear of war with Greece caused investment to fall, foreign capital flows to dry up and tourism to decline. There was, however, a much more serious and long term effect of the Cyprus invasion, namely that the arms race between the two countries accelerated. The invasion and the threat of war made Turkey realise that much of its military equipment was antiquated and needed replacement. During August 1974 it was reported that the Turkish generals had presented the government with a long list of military requirements, and two submarines and 260 armoured personnel carriers were ordered from two unspecified European countries. The arms embargo meant that the economic impact of the arms build-up was made more serious as scarce foreign exchange was absorbed in buying arms from abroad.

Between 1970 and 1974 Turkish military expenditure increased by almost 40 per cent while Greek military expenditure rose by only eight per cent and in both countries the military burden declined. After the conflict of 1974 there was an enormous increase in military expenditure, the details of which are given in Table 8.1.

In 1975 military spending increased by nearly 70 per cent in Turkey and about 60 per cent in Greece, to stand at \$1563 million and \$1043 million respectively.

TABLE 8.1

Turkish and Greek Military Expenditure,
1970-78

<u>Year</u>	<u>Military Exp.</u> <u>in U.S.\$m.</u> <u>at 1973 prices</u> <u>& ex. rates</u>		<u>ME as %</u> <u>of GDP</u>		<u>ME as %</u> <u>of Govt.</u> <u>Exp.</u>		<u>Total Armed</u> <u>Forces</u> <u>000's</u>	
	T	G	T	G	T	G	T	G
1970	675	603	4.3	4.8	20.9	20.1	450	160
1971	790	638	4.5	4.7	20.8	20.3	450	160
1972	821	680	4.3	4.6	21.1	20.8	455	160
1973	862	679	4.1	4.1	21.1	21.7	453	161
1974	943	650	3.9	4.3	20.5	25.2	453	161
1975	1563	1043	6.1	6.5	26.6	28.5	453	161
1976	1916	1022	6.8	6.0	29.4	26.0	460	199
1977	1606	1230	5.9	6.9	21.1	20.2	468	200
1978	1127	1230	5.5	6.7	22.0	18.3	485	190

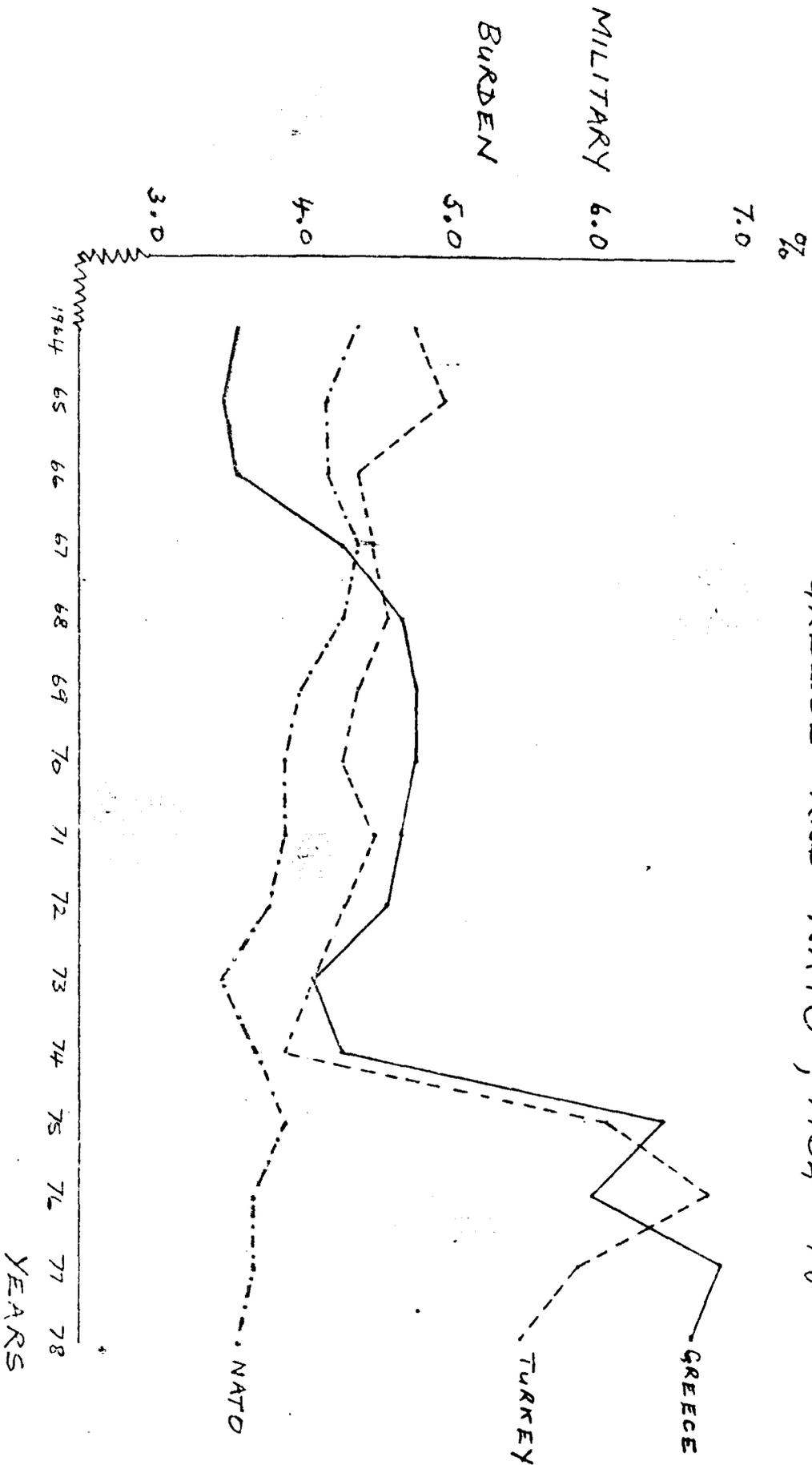
Notes: T=Turkey; G=Greece

Source: S.I.P.R.I. 1979; I.I.S.S. 1974, 1979.

In 1976 there was a further increase in the defence allocation in Turkey of over 22 per cent which was followed by two years of contraction in real terms, although the military burden was still 1.6 per cent higher in 1978 than it had been in 1974. In Greece military expenditure fell slightly in 1976 and was maintained in 1978. Over the period 1970-74 an average of 4.2 per cent and 4.5 per cent of G.D.P. was committed to defence in Turkey and Greece respectively, and this rose to 6.1 and 6.5 per cent during 1975-78. The arms race was not noticeable in the military budgets of other N.A.T.O. countries where the effects of detente had led to declining military burdens, and in fact N.A.T.O. military expenditure was lower in 1978 in real terms than it had been in 1970 and 1974 (see Figure 8.1). The rising military burdens in Greece and Turkey were also reflected in the proportion of government expenditure allocated to defence which rose to a peak of 29.4 per cent in Turkey in 1976 and 28.5 per cent in Greece in 1975. It took longer for military manpower to respond but by 1978 the total armed forces in Turkey were 30,000 above the 1974 figure, while in Greece by 1977 an extra 40,000 military personnel had been drafted into the armed forces.

Ignoring the significance of the results and allowing for the arms embargo, the equations estimated in chapter seven would predict that the rising military burden in Turkey after 1974 would cause the growth rate

FIGURE 8.1 THE MILITARY BURDEN OF TURKEY, GREECE AND NATO, 1964-78



mobilisation drag' and indirectly through resource diversion, but the period 1975-77 does not appear to conform to this pattern. The savings ratio remained constant during 1974 and 1975 at 18.7 per cent of G.N.P. and then declined in the following two years to 17.6 and 15.5 per cent, but the growth rate did not begin to slow down until 1977 when it fell to four per cent. In spite of the apparent strength of the Turkish economy, however, the underlying situation was not so healthy and the rising defence burden did have a considerable effect on the growth rate. Industrial production expanded somewhat more slowly in 1975 than in previous years but because agricultural production rose substantially, due to climatic factors, the overall growth in G.N.P. was about eight per cent. But there were signs of problems in 1975 and 1976, particularly in industry where capacity utilisation was falling and stocks of unsold goods were rising, due to a decline in exports. Furthermore, these two years saw consumption rising more rapidly, and private investment less rapidly than planned.

The growth rate was maintained during 1975 and 1976 because economic policy gave priority to keeping up the momentum of domestic demand rather than to adjusting the Turkish economy to changing external conditions. The central government budget absorbed 18.8 per cent of the G.D.P. in 1974 which then increased each year to reach 26.7 per cent in 1977, with a rising proportion of the budget being accounted for by defence, as Table 8.2 shows.

TABLE 8.2

The Growth of Government Expenditure
and Related Variables, 1974-78

<u>Year</u>	<u>Central Government Budget as % of G.D.P.</u>	<u>Defence Exp. as % of Budget</u>	<u>Growth of the Money Supply %</u>
1974	18.8	20.5	27.6
1975	21.7	26.7	31.7
1976	23.4	26.4	28.0
1977	26.7	21.7	39.0
1978	25.6	20.2	37.0

Sources: International Financial Statistics,
Vol. 34, No. 5, May 1981; S.I.P.R.I. 1979.

As a result of the rising government expenditure there was a big increase in the size of the public sector deficit after 1975 which reached 6.1 per cent of the G.D.P. in 1977, and was financed by domestic borrowing mainly from the Central Bank.

The expansion of the Turkish economy in 1975 and 1976 was accompanied by serious economic problems. There was accelerating inflation caused by the monetary expansion

and unemployment also increased, but the major problem was the growing imbalance on the external account. Between 1974-77 it was possible for Turkey to finance the foreign exchange deficit through worker remittances and by short-term borrowing on the Euromarket, but when this source began to dry up in 1977 the country was eventually forced to suspend foreign payments and introduce deflationary policies. In the period 1952-76 there was no evidence that the foreign exchange position had constrained growth but after 1974 the joint impact of the energy shortage and the rising defence burden finally created such a severe external deficit that growth was brought to an end. After 1977 both internal and external security objectives demanded high levels of military expenditure, yet in the context of a stagnating economy and a serious foreign exchange position this inevitably meant that desirable civil expenditure was crowded out with adverse effects on growth and social justice.

APPENDIX 1

Article 141 states:

Whoever attempts to establish or establishes, or arranges or conducts and administers the activities of societies in any way and under any name, or furnishes guidance in these respects, with the purpose of establishing domination of a social class over other social classes or exterminating a certain social class or overthrowing any of the established basic economic or social orders of the country, shall be punished by heavy imprisonment of from eight to 15 years. Whoever conducts and administers more than one or all such societies shall be punished by death.

Article 142 states:

Whoever makes propoganda with the purpose of establishing the domination of one social class over others, exterminating any of the social classes, overthrowing any of the established basic economic or social orders of the country, or the political or legal system of the state, shall be punished by heavy imprisonment of from five to 10 years.

APPENDIX 2

Estimation of allocations to defence by N.A.T.O. countries for 1953, 1958 and 1977 using the British 'net tax rate' after allowing for benefits and taxes to determine the required share of the defence burden. The following tables correspond to Tables 4.2 to 4.6 pp. 117-123.

TABLE 4.2¹Per Capita Incomes of N.A.T.O. Countriesin \$ for 1953

<u>Country</u>	<u>Per Capita Income</u> (1)	<u>Per Capita Income as % of N.A.T.O. average</u> (2)
U.S.A.	2080	277.70
Canada	1521	203.07
U.K.	810	108.14
Belgium	852	113.75
Norway	794	106.01
France	866	115.62
Denmark	791	105.61
Germany	619	82.64
Netherlands	530	70.76
Italy	353	47.13
Greece	190	25.37
Portugal	176	23.50
Turkey	159	21.23
Average*	749	

Note: * unweighted

Source: U.N. Yearbook of National Accounts
Statistics, New York, 1964.

TABLE 4.3¹

British Family Income Distribution
and allowing for Benefits and Taxes, 1959

<u>Range of</u> <u>Income</u>	<u>Average</u> <u>Income</u>	<u>Average</u> <u>Tax</u>	<u>Tax as %</u> <u>of Inc.</u>	<u>Average</u> <u>Benefit</u>	<u>Ben. as</u> <u>% of Inc.</u>	<u>Net Tax</u> <u>Rate</u>
Top 1%	5009	1597	31.9	118	2.3	29.6
1-5%	2291	642	28.0	126	5.5	22.5
5-10%	1623	484	29.8	98	6.0	23.8
10-20%	1289	352	27.3	117	9.0	18.3
20-50%	956	246	25.7	126	13.2	12.5
50-75%	667	169	25.3	134	20.1	5.2
75-100%	314	94	29.9	190	60.5	-30.6

Note: Average Family Income = 1643

Source: C. Clark and G.H. Peters, Income and
Wealth: Series X, derived from Tables
V and VIII.

TABLE 4.4¹

The Percentage of G.N.P. to be spent on
Defence using the adjusted tax rate
as the determinant of the burden sharing,
and using the U.K. defence burden as a standard

<u>Country</u>	1953		1958		1977	
	<u>Adjusted</u> <u>Tax</u> <u>Rate</u>	<u>Required</u> <u>Defence</u> <u>Burden</u>	<u>Adj^d</u> <u>Tax</u> <u>Rate</u>	<u>Req^d</u> <u>Def.</u> <u>Burden</u>	<u>Adj^d</u> <u>Tax</u> <u>Rate</u>	<u>Req^d</u> <u>Def.</u> <u>Burden</u>
	(1)	(2)	(3)	(4)	(5)	(6)
U.S.A.	29.1	13.4	28.6	8.8	26.8	7.8
Canada	27.8	12.8	27.6	8.5	26.7	7.8
U.K.	24.5	11.3	25.3	7.8	17.1	5.0
Belgium	24.8	11.4	24.6	7.6	25.8	7.5
Norway	24.3	11.2	24.5	7.6	26.8	7.8
France	25.0	11.5	24.3	7.5	25.5	7.5
Denmark	24.3	11.2	24.2	7.5	26.4	7.7
Germany	19.4	8.9	24.4	7.5	26.5	7.7
Netherlands	16.1	7.4	18.8	5.8	25.3	7.4
Italy	7.9	3.6	11.9	3.7	12.3	3.6
Greece	-20.1	-9.3	-1.6	-0.5	7.9	2.3
Portugal	-23.2	-10.7	-23.4	-7.2	-9.5	-2.3
Turkey	-26.9	-12.4	-30.0	-9.2	-31.4	-9.2

Derived from Tables 4.2¹ and 4.3¹

TABLE 4.5¹

Allocations to Defence by N.A.T.O. Countries
using the U.K. defence burden
as a standard, 1953

<u>Country</u>	<u>Required</u> <u>Defence</u> <u>Burden</u>	<u>Actual</u> <u>Defence</u> <u>Burden</u>	<u>GNP</u> <u>US \$b.</u>	<u>Defence</u> <u>Expend.</u> <u>US \$m.</u>	<u>Req^d</u> <u>Def.</u> <u>Expend.</u> <u>in US \$m.</u>
	(1)	(2)	(3)	(4)	(5)
Norway	11.2	5.6	2.7	149	299
U.S.A.	13.4	14.8	333.2	49321	44655
Canada	12.8	9.0	22.6	2032	2890
Germany	8.9	4.9	30.4	1490	2706
Denmark	11.2	3.7	3.5	128	387
Belgium	11.4	5.3	7.5	396	852
France	11.5	11.0	36.9	4064	4248
Netherlands	7.4	6.2	5.6	345	411
U.K.	11.3	11.3	41.2	4656	4656
Italy	3.6	4.6	16.8	773	605
Greece	-9.3	6.1	1.5	91	-138
Portugal	-10.7	4.6	1.5	69	-161
Turkey	-12.4	5.4	3.6	196	-449

Source: Cols. (2) and (4), I.I.S.S. (1965)

TABLE 4.6¹Allocations to Defence by N.A.T.O. Countriesusing the U.K. defence burdenas a standard, 1958

<u>Country</u>	<u>Required Defence Burden</u>	<u>Actual Defence Burden</u>	<u>GNP US \$b.</u>	<u>Defence Expend. US \$m.</u>	<u>Req^d Def. Expend. in US \$m.</u>
	(1)	(2)	(3)	(4)	(5)
Norway	7.6	4.0	4.0	160	305
U.S.A.	8.8	10.9	455.0	49591	40037
Canada	8.5	6.0	33.9	1356	2881
Germany	7.5	3.4	57.9	1968	4341
Denmark	7.5	3.3	5.0	164	373
Belgium	7.6	3.9	10.5	408	795
France	7.5	7.9	49.6	3916	3718
Netherlands	5.8	5.0	9.5	473	548
U.K.	7.8	7.8	64.8	5053	5053
Italy	3.7	4.3	29.3	1262	1086
Greece	-0.5	5.8	3.1	182	-16
Portugal	-7.2	4.5	2.1	96	-154
Turkey	-9.2	4.5	5.3	239	-488

Sources: Cols. (2) and (4), I.I.S.S. (1966);

Col. (3) U.N. Statistical Yearbook, 1969.

TABLE 4.6¹¹

Allocations to Defence by N.A.T.O. Countries
using the U.K. defence burden
as a standard, 1977

<u>Country</u>	<u>Required</u> <u>Defence</u> <u>Burden</u>	<u>Actual</u> <u>Defence</u> <u>Burden</u>	<u>GNP</u> <u>US \$b.</u>	<u>Defence</u> <u>Expend.</u> <u>US \$b.</u>	<u>Req^d</u> <u>Def.</u> <u>Expend.</u> <u>US \$b.</u>
	(1)	(2)	(3)	(4)	(5)
Norway	7.8	3.1	34.2	1.1	2.7
U.S.A.	7.8	6.0	1874.4	104.3	146.2
Canada	7.8	1.8	197.1	3.3	15.4
Germany	7.7	3.4	501.0	17.1	38.6
Denmark	7.7	2.5	41.0	1.1	3.2
Belgium	7.5	3.4	74.4	2.5	5.6
France	7.5	3.6	387.1	13.7	29.0
Netherlands	7.4	3.6	99.4	3.7	7.4
U.K.	5.0	5.0	247.1	12.4	12.4
Italy	3.6	2.4	194.4	4.7	7.0
Greece	2.3	5.0	25.9	1.3	0.6
Portugal	-2.8	3.3	18.1	0.5	-0.5
Turkey	-9.2	5.7	46.5	2.6	-4.3

Source: I.I.S.S. (1978)

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58. See Baumol, W.J. (1972): 'Economic Theory and Operations Analysis', ch. 4, Prentice Hall, 1972.
59. There are several ways of measuring factor intensity, but the most frequently used concepts are the factor coefficient (input of factor in relation to the output of a commodity), the share of wages in value added, and the capital-output ratio. These concepts and their limitations are discussed in Bhalla, A.S. (1975): 'Technology and Employment in Industry: A Case Study Approach', pp. 19-29, Geneva, 1975.
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64. Different projects could be compared by their discounted time stream of output, but the result would be sensitive to the rate of discount chosen.
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quantities represented by isoquants.

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71. See Bulent Ecevit's address to the I.I.S.S. reprinted in 'Survival', September-October 1978.
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76. ibid, p. 219.
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78. In the mid 1960s three separate military aircraft that were being developed in the U.K. were cancelled - the TSR2, the P1154 and the AW631 - because they were uneconomic. In 1961 the Blue Steel and the Blue Streak strategic missiles were also cancelled after several years' work.

CHAPTER 6

1. See for example the U.N. Reports of 1962, 1971, and 1977, op. cit.
2. See Brown, A.J. (1967): 'The Effect of Disarmament on the Balance of Payments of the U.K.' in Benoit, E. (Ed.) (1967): 'Disarmament and World Economic Interdependence', Columbia U.P.
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6. Halpern, M. (1964): 'The Politics of Social Change in the Middle East and North Africa', Princeton U.P.
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8. Myrdal, G. (1971): 'The Challenge of World Poverty', p. 339, Pelican, 1971.
9. Whynes, D.K. (1979), op. cit., pp. 79-80.
10. Myrdal, G. (1971), op. cit., p. 333.
11. The I.I.S.S. uses the term 'arms agreements' for military transfers, while S.I.P.R.I. has an 'Arms Trade Register', but both lists include military transfers through aid and trade, although it is not always clear which it is.
12. S.I.P.R.I. (1979): 'Yearbook'.
13. See S.I.P.R.I. (1969): 'Yearbook', p. 46.
14. Hovey, H.A. (1965): 'United States Military Assistance', Praeger, New York, 1965.
15. S.I.P.R.I. (1971): 'Yearbook', ch. 3.

16. *ibid.*, p. 21.
17. Luxemburg, R. (1913), *op. cit.*, ch. 16. She emphasises the role of foreign markets in maintaining the viability of capitalist enterprise.
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21. Giritli, I. (1970): 'Turkish-Soviet Relations', *India Quarterly*, p. 6, January/March 1970.
22. *ibid.*, p. 7.
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24. The secondary suppliers like the U.K., France, and Germany very often gear their military hardware to export markets because their domestic consumption is not sufficient to maintain a viable arms industry, but this is not the case with the U.S.A. and the U.S.S.R.
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26. Paper prepared for U.S. Congress, 1975.
27. For a review of N.A.T.O.'s role in Southern Europe see Rivero, Admiral Horacio (1972): 'The Defence of N.A.T.O.'s Southern Flank', *Journal of the Royal United Institute for Defence Studies*, Vol. 117, No. 666, June 1972.
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30. Truman, Harry S. (1955): 'Memoirs, Vol. 2, Years of Trial and Hope', pp. 97-98, Doubleday and Co., New York, 1955.
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45. *ibid.*

46. Shorter, F.C. (1967), op. cit., p. 57.
47. U.S. classified material is subject to a 25 year rule but the uncertainty will continue even as new information is released.
48. Lerner, D. and Robinson, R.D. (1960), op. cit., p.36.
49. Kennedy, G. (1975), op. cit., p. 143 refers to a range of between \$1 billion and \$ 3 billion.
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51. U.S. Department of Defence, Manual 5105.38 Part 1, p. D-2.
52. Financial Times, November 23, 1977.
53. Financial Times, November 8, 1977.
54. International Herald Tribune, Paris, June 1980.
55. Lock, P. and Wulf, H. (1979), op. cit., p. 211.
56. See the 'Arms Trade Registers' in the S.I.P.R.I. Yearbooks and the notes on the collection of data.
57. This concept is used by Chen, E.K.Y. (1976), quoted by Lock, P. and Wulf, H. (1979), op. cit.
58. Joan Robinson has argued that it is precisely the lack of any increase in productive capacity that accompanies military expenditure that makes it suitable for capitalist nations trying to overcome the tendency towards underconsumption. See 'Introduction' to Luxemburg, R. (1913), op. cit.
59. U.N. (1977), op. cit. describes the arms trade as involving 'highly unequal exchange'.
60. S.I.P.R.I. (1978): 'Yearbook', p. 313.
61. I.I.S.S. (1971):. 'Military Balance', pp. 32-33.
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 70. ibid., p. 117.
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- on March 6, 1952. Quoted by Satterthwaite, J.C. (1972), op. cit., p. 83.
92. Quoted by Sutcliffe, R.B. in 'Foreword' to Hayter, T. (1972): 'Aid as Imperialism', p. 5, Pelican.
 93. *ibid.*
 94. Tuncer, B. (1975), op. cit., p. 207.
 95. U.S. A.I.D. 'Programme Guidance Manual'.
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111. Quoted by Ahmad, F. (1977), op. cit., p. 131.
112. *ibid.*, p. 132.
113. Krueger, A.O. (1974), op. cit., p. 135.
114. Berberoglu, B. (1981), op. cit., p. 279.
115. Quoted by Ahmad, F. (1977), op. cit., p. 279.
116. Turkey An Economic Survey (1977), op. cit., p. 182.
117. *ibid.*, p. 184.
118. When the public sector is excluded and only those activities which are open to foreign capital are considered then the percentages rise to 26.8 and 11.1 respectively.
119. Bridge, J. et al. (1976), op. cit., p. 113.
120. Snider, W. (1969): 'Turkish Economic Development', Journal of Development Studies, 1969, p. 58.
121. Ahmad, F. (1977), op. cit., p. 278.
122. Approximately 60 per cent for the 109 firms operating under Law 6224.
123. Colmen, D. and Mixson, F. (1978), op. cit., pp. 117-18.
124. Ahmad, F. (1977), op. cit., p. 280.
125. The World Bank (1980): 'Shadow Prices for Project Appraisal in Turkey', Staff Working Paper No. 392, New York, 1980.
126. International Herald Tribune, Paris, June 1980.
127. Turkey An Economic Survey (1977), op. cit., p. 85.
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129. The ratio of interest plus debt repayments to the value of exports.
130. Based on figures given in C.E.C.D. (1980) 'Economic Surveys: Turkey', Table 10.
131. The United Nations International Development Strategy for the Second U.N. Development Decade recognised two goals related to the problem:
(1) to bring about a more equitable distribution of income and wealth for promoting both social justice and efficiency of production, and (2) to raise substantially the level of employment. See Department of Economic and Social Affairs (1970): 'International Development Strategy', New York, United Nations, para. 18.
132. According to the Fourth Five Year Plan Programme agricultural under-employment was over 1 million even at the peak of the agricultural year.
133. Cohn, E.J. and Erikson, J.R. (1972): 'Employment and Income Distribution Objectives for A.I.D. Programs and Policies', Bureau for Program and Policy Co-ordination, A.I.D. Washington D.C. 20523, October 1972.
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136. Raj, K.N. and Sen, A.K. (1961): 'Alternative Patterns of Growth under conditions of stagnant export earnings', Oxford Economic Papers, February 1961. They discuss three stages of import substituting industrialisation.
137. Pack, H. and Todaro, H. (1969), op. cit.
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CHAPTER 7

1. The main estimation is based on two-stage least squares.
2. See earlier comments, pp. 166-167.
3. Kennedy, G. (1975), *op. cit.*, p. 130.
4. *ibid.*, p. 187.
5. Whynes, D.K. (1979), *op. cit.*, p. 72.
6. Benoit, E. and Lubell, H. (1967): 'The World Burden of National Defence', in Benoit, E. (Ed.) 'Disarmament and World Economic Interdependence', Columbia U.P., New York.
7. This estimate is dependent on the crucial assumption that all military personnel would be able to find employment in the civilian sector.
8. The Benoit-Lubell estimate for this is actually greater than the amount spent by the Gendarmerie in 1964, which amounted to 275 E.L. million.
9. Pryor, F.L. (1968): 'Public Expenditure in Communist and Capitalist Nations', Allen and Unwin, London.
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12. *ibid.*, p. 147.
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14. Benoit, E. (1973), *op. cit.*, p. 24.

15. In Benoit's 1978 article, G^1 (the growth rate of civilian product) is defined as "the real growth in GDP minus real growth in defence expenditure", which is expressed as a cumulative rate of annual growth. This implies that

$$G^1 = \dot{Y}/Y - \dot{B}/B$$

where G^1 = the growth rate of civilian output, \dot{CY}/CY

\dot{Y}/Y = growth rate of GDP

\dot{B}/B = growth rate of defence spending

Clearly this would underestimate the growth rate of civilian output. However, in Benoit's book (1973) he appears to correctly specify the growth rate of civilian product, namely

$$G^1 = \text{cumulative growth rate of CY}$$

where $CY = GNP - \text{Defence Expenditure (in real terms)}$.

16. Even if Benoit had underestimated the growth rate of civilian output the error would be the same for all countries and the regression results might not be influenced unduly.
17. Deger, S. (1981), 'Economic Development and Defence Expenditures', Paper delivered at the SSRC Development Economics Study Group, May 15, 1981.
18. Kalecki, M. (1976), ch. 5
19. It has been argued that the marginal product of labour in agriculture is low but not equal to zero. See World Bank (1980), op. cit.
20. This point is developed by Faini, R., Annez, P. and Taylor, L. (1980).
21. In Turkey over 60 per cent of Total Tax Revenue is obtained through indirect taxes.

22. This is consistent with the structuralist view of inflation, which emphasises that inflation is unavoidable in L.D.C.s that are attempting to grow rapidly when they are faced by structural bottlenecks. See: Sunkel, O. (1960): 'Inflation in Chile: An Unorthodox Approach', International Economic Papers, No. 10, 1960.
23. Strictly speaking the 'A' term represents all of the factors which go into determining Q , apart from K and L .
24. See Solow, R.M. (1956): 'A Contribution to the Theory of Economic Growth', Q.J.E. 1956.
25. See Harrod, R.F. (1939): 'An Essay in Dynamic Theory', Economic Journal; Domar, E.D. (1946): 'Capital Expansion, Rate of Growth and Employment', Econometrica.
26. Rostow, W.W. (1964): 'The Stages of Economic Growth', Cambridge U.P.
27. Lewis, W.A. (1954): 'Economic Development with Unlimited Supplies of Labour', The Manchester School.
28. *ibid.*, p. 155.
29. Rostow, W.W. (1964), *op. cit.*, p. 8.
30. See for example: Ackley, G. (1967) 'Macroeconomic Theory', Macmillan, ch. 18.
31. Lewis, B. (1970): 'Some Reflections on the Decline of the Ottoman Empire' in Cipolla, C.M. (Ed.) 'The Economic Decline of Empires', Methuen, London.
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37. See earlier comments in ch. 4.
38. Benoit, E. (1978), op. cit., p. 278.
39. See: Thirwall, A.P. (1974), op. cit.
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51. For example: Pye, L. (1967), op. cit., but also see earlier, ch. 4., pp. 95-99.
52. Theil, H. (1958): 'Economic Forecasts and Policy', North Holland Publishing Co., p. 225.
53. The program used is GIVE. For a full description of the program see: Hendry, D.F. and Srba, F. (1978): 'Technical Manual for GIVE', I.S.E.

54. In the GIVE program the chi-square statistic tests for the independence of the chosen instruments and the error term.
55. These estimates used O.L.S.
56. Agriculture has been organised in small scale units and this has reduced the power of the industry to influence the allocation of resources.
57. McCable, J. and Michalopoulos, C. (1971), op. cit.

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