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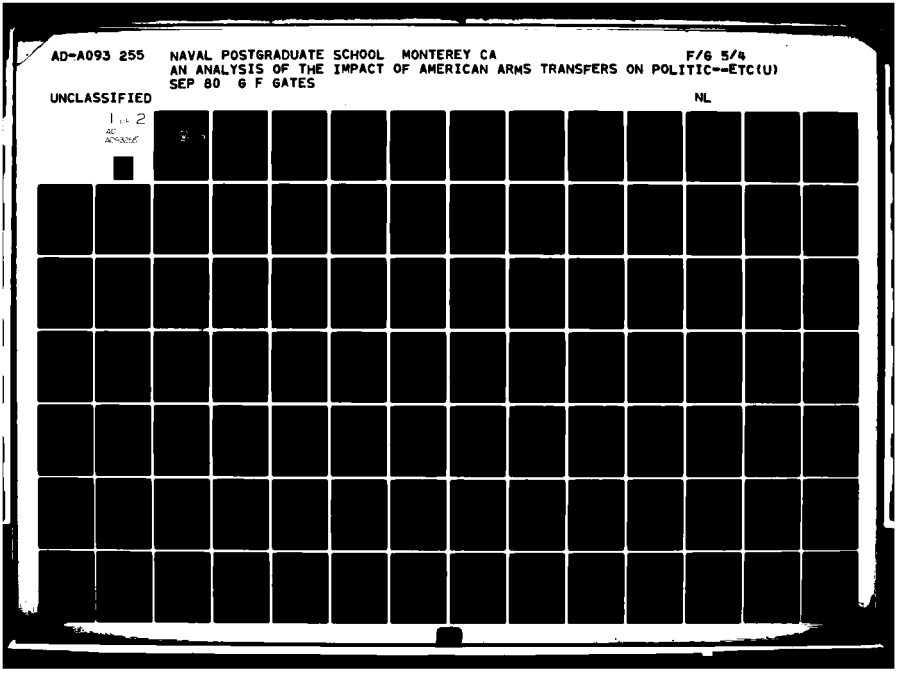

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AN ANALYSIS OF THE IMPACT OF AMERICAN ARMS TRANSFERS ON POLITICAL STABILITY IN IRAN

by

Gregory Francis Gates

September 1980

Thesis Advisor: E. J. Laurance

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resource constrained. As such, the nation's tremendous defense budget proved to be an economic burden. Spiralling inflation, failing development plans and rising unemployment were the result. The people's rising expectations, brought on by the oil boom of 1973, were quickly replaced by a perception of relative deprivation. This prompted a linkage of various disenchanted groups within Iranian society who together formed the basis for Iran's civil strife in 1977-78, and the eventual downfall of the Shah.

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An Analysis of the Impact of American Arms Transfers on Political Stability in Iran

by

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Submitted in partial fulfillment of the requirements for the degree of

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ABSTRACT

During the decade of the 1970s, the United States sold more arms to Iran than to any other country. In spite of Iran's vast oil wealth, the billions of dollars spent by the Shah on arms aquisitions had a measurable impact on both the country's economy and its ability to maintain a steady rate of developmental growth. Iran has traditionally been regarded as a non-resource constrained nation. However, in the latter half of the 1970s Iran's trade surpluses dwindled, its foreign exchange reserves shrank, and government expenditures outran revenues. All of which indicated that Iran was becoming resource constrained. As such, the nation's tremendous defense budget proved to be an economic burden. Spiralling inflation, failing development plans and rising unemployment were the result. The people's rising expectations, brought on by the oil boom of 1973, were quickly replaced by a perception of relative deprivation. This prompted a linkage of various disenchanted groups within Iranian society who together formed the basis for Iran's civil strife in 1977-78, and the eventual downfall of the Shah.

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ACKNOWLEDGEMENT

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I. INTRODUCTION

On August 12, 1953, Iranian Prime Minister Mohammad Mossadegh decided to usurp the powers of Mohhammad Reza Pahlavi Shahanshah Aryamehr by dissolving the Majlis (Parliament). The following day Mossadegh was dismissed and General Fazullah Zahedi was appointed by the Shah as Prime Minister. Mossadegh refused to leave and through the use of troops loyal to him managed to remain in office. On August 16 the Shah fled by plane to Baghdad and then on to Rome, while General Zahedi escaped to the provinces. But on August 19 large crowds, spurred on by agents of the American Central Intelligence Agency, took to the streets of Tehran shouting "Long live the Shah." General Zahedi's troops attacked the Mossadegh supporters and a small tank battle ensured. By nightfall Zahedi was victorious. The Shah returned on August 22; Mossadegh was arrested, found guilty of attempted rebellion and sentenced to three yeasr imprisonment; a new cabinet under General Zahedi was approved; and on September 5, President Eisenhower authorized a $45 million emergency grant to Iran. In October the bazaar shops closed in protest of Mossadegh's imprisonment. Several shopkeepers were arrested. When a second attempt at closing ensued, the Shan ordered the vaulted bazaar roofs demolished. The merchants quickly reopened and shifted their support to General Zahedi.[1] Thus

began 25 years of unquestioned rule by the Shah with the full support of the United States government.

This stately friendship provided a number of benefits for both the United States and Iran. For the United States Iran was a bastion of stability and support in a region of instability and hostility; an unswerving supplier of oil for the U.S. and its other Middle Eastern ally, Israel; a state bordering the Soviet Union which freely permitted installation of U.S. "listening posts"; and an eager and wealthy purchaser of American exports. For Iran the United States proved to be a rich repository of technical assistance; a purchaser of oil who complained little about price increases; a willing educator for students of all subjects; and an equally willing supplier of all manner of high technology equipment, industrial and military alike.

Furthermore the Shah was, in Allisonian terms[2], a "rational actor," at least from the standpoint of eight American Presidents, including the present administration. This made him something of a novelty among third world leaders and greatly enhanced the affability of American-Iranian relations. For the Shah's part--in spite of the current flood of demeaning rhetoric--he was both a reformer and a progressive. During the 25 years from 1953 through 1978, the Shah sought to industrialize the country, modernize the society, develop the economy, and build a military structure that was, regionally, second only to the Soviet Union. He promoted literacy

and women's rights, instituted land reform, and directed an economy with a Gross National Product that grew at an average rate of 15.4 per cent a year from from 1968 to 1977.[3] Unfortunately, this may well have been the principal cause of the Shah's downfall. Iran's rapid leap into the twentieth century was more than a twenty-five hundred year old government could effectively cope with.

A. PURPOSE AND METHODOLOGY

During recent months a number of volumes and articles have appeared discussing the various aspects of the Shah of Iran's government and his fall from power. Most have been non-analytical, personal accounts such as Amin Saikal's The Rise and Fall of the Shah, William Farbis' Fall of the Peacock Throne: The Story of Iran, and Fereydoun Hoveda's The Fall of the Shah. Others have been written by authors with a wide assortment of "axes to grind" such as Sepehr Zabih's Iran's Revolutionary Upheaval, Fred Halliday's Iran : Dictatorship and Development, and Raymond Habiby and Foribarz Ghavidel's "Khumaynih's Islamic Republic" which appeared in Summer 1979 issue of Middle East Review. And still others have made attempts at rational analysis, but without the benefit of currently available data, such as James Bill's "Iran and the Crisis of '78" in the Winter 1978/79 issue of Foreign Affairs, Robert Graham's Iran: The Illusion of Power, Theodore Moran's "Iranian Defense Expenditures and the Social

Crisis" in the Winter 1978/69 issue of International Security, and Stephanie Neuman's "Security, Military Expenditures and Socioeconomic Development: Reflections on Iran" appearing in the Fall 1978 issue of Orbis.

On the subject of arms transfers most works that have included data on Iran have been merely descriptive in nature, emphasizing factors such as the arms industry, the origins of arms trade, the different kinds of weapons and their transfers, sales of second-hand weapons, expenditures involved, methods of transfer, and so on. Much the same can be said for volumes on the Iranian economy. For instance, works such as Robert Looney's A Development Strategy for Iran Through the 1980s and Iran at the End of the Century, Jahangir Amuzegar's Iran: An Economic Profile, and Samueles Lieberman's "Prospects for Development and Population Growth in Iran" in the June 1979 issue of Population and Development Review discuss such topics as allocation of oil revenues, development problems, economic growth, inflation, distribution patterns, manpower policies, public sector and fiscal policy, and provide a variety of enlightened projections for the future (none of which are likely to be even remotely correct).

This is not to say that these works are without foundation or worth. On the contrary, they provide a wealth of information and insight. Nevertheless, to this writer's knowledge, there is no work that explores in depth the complex

connection between Iran's arms purchase, the economy, and the political atmosphere that led to the fall of the Shah's government.

The analytical framework which guides this study draws on two theoretical approaches. The first approach, used by Peter C. Frederiksen and Robert E. Looney, deals with the impact of defense expenditures on economic growth in developing countries.[4] This worked, based on the initial findings of Emile Benoit,[5] proposes that defense expenditures in countries which are not resource constrained play a positive and important role in increasing economic growth; and conversely, that countries which suffer a lack of foreign exchange and government revenues are growth impeded by defense expenditures. Both the Benoit and Frederiksen-Looney studies are based on cross-national data covering the period 1950-65. In the latter work Iran is included as one of twenty-four countries adjudged to be non-resource constrained. Thus, one can assume that during the period covered, Iran's defense expenditures and arms purchases benefitted rather than hampered economic growth. However, it is the contention of this thesis that beginning in 1976, with declining trade surpluses, fiscal deficits, and falling foreign exchange balances, Iran became a resource constrained nation and, as such, its growth was hampered by defense spending.

The second approach, proposed by Ted Gurr in 1968, offers an explantion for the linkages between perceived deprivation

and the magnitude of civil strife.[6] Gurr proposed that

> . . .a psychological variable, relative deprivation, is the basic precondition for civil strife of any kind, and that the more widespread and intense deprivation is among members of a population, the greater is the magnitude of strife in one or another form.[7]

Deprivation can be either persistent or short-term and can be attributed to several different indicators. Between deprivation and civil strife are four intervening variables; the regimes's coercive potential, national institutionalization, facilitation (both past levels of strife and social and structural facilitation), and the regime's perceived legitimacy. These variables, depending on their magnitude, can impair or enhance the probability that deprivation will result in strife. Thus, it is the second contention of this thesis that economic and developmental difficulties in Iran during the years 1976-78 resulted in the perception of relative deprivation by a sufficient proportion of the population to plant the seeds of civil strife.

Methodologically, therefore, this study attempts to utilize a combination of objective and subjective approaches as a means of achieving a comprehensive analysis. This eclectic approach is justified for two reasons. First, arms transfers and economic data can be quantified. Arms transfers have been measured using a variety of techniques including budgetary data, dollar valuation, inventory technique, technological indexes (factor analysis and multiplicative measures), and most recently by Multiattribute Utility (MAU) measurement,

a procedure developed by Ronald Sherwin and Edward Laurance to analyze military capability.[8] The method of analyzing a national economy is somewhat more standardized, though, as is also the case for arms transfers, the data available is often of questionable accuracy. Second, a deeper understanding of the interaction of arms purchases, economics, and political events, can hardly be attained without a serious consideration of the non-quantifiable attitudes, goals, and perceptions of the individual actors. That is, the people's perception of their level of relative deprivation. The clandestine National Voice of Iran accused the Shah of having "squandered more than $30 billion worth of oil revenues on arms purchases."[9] To a certain extent, whether or not this statement is correct is immaterial. What is important is that many Iranian militants believe it to be true, hence it is of significance to the political analysis.

B. DEFINITION OF BASIC TERMS

Some of the basic terms used in this study require brief definition for clarity. The term "arms transfers" is used in the sense prescribed by the United States Arms Control and Disarmament Agency.

> Arms transfers represent the international transfer under grant, credit, or cash sales terms of military equipment usually referred to as 'conventional,' including weapons of war, parts thereof, ammunition, support equipment, and other commodities considered primarily military in nature. Among the items included are tactical guided missiles, rockets, military aircraft, naval vessels, armored and nonarmored military vehicles,

> military communications and electronic equipment, artillery, infantry weapons, small arms ammunition and other ordinance, parachutes, and uniforms. Also included are transfers of equipment for defense industries.[10]

The term "military expenditure" is used in the manner defined by the Stockholm International Peace Research Institute (SIPRI).

> . . .expenditure figures. . . show the amount of money actually spent (or likely to be spent. . .)for military purposes. Expenditure is defined to include resources devoted to research and development, to include military aid in the budget of the donor country and to exclude it from the budget of the recipient country, and to exclude war pensions. The figures are presented on a calendar year basis.[11]

For the purposes of this thesis the three areas of the Persian Gulf, the Northern Tier, and the Middle East, are treated as a single geopolitical region. Since 1973 it has become increasingly difficult to maintain the traditional distinction between the major issues of the three regions. The political, social, and economic issues of the Middle East have spillover effects in the Persian Gulf and Northern Tier and vice versa. However, the three areas are discussed separately in the text whenever such effects are absent.

C. ORGANIZATION OF THE STUDY

This study is organized in four chapters exclusive of the Introduction and Conclusion. Following the introduction the second chapter examines American arms transfers to Iran during the 1969-77 period. This to include as complete a listing as possible (given available, unclassified sources) of all arms

ordered by Iran, arms actually delivered, and the cost of those arms in both current and constant dollars.

The third chapter examines Iran's economic Development Plans, giving particular emphasis to the Fourth and Fifth Plans. Many of Iran's political problems have been blamed on the failuare of these plans. The reason most often given for their lack of success is inadequate development funds due to high military expenditures. In fact, the Development Plans may well have been overly ambitious and ill conceived to begin with.

The fourth chapter attempts to analyze the Iranian economy during the period 1968-78 to include sectoral growth rates, sectoral impact on per capita gross national product (GNP), absorptive capacity, impact of military expenditures on nonmilitary sectoral growth rates, and so on. The chapter's main objective is to provide a determination of the potential effects of rechanneling military expenditure resources into other economic sectors, in other words the "opportunity cost" of Iranian defense expenditures.

The fifth chapter correlates the information of the previous chapters and provides an estimate of the actual impact of Iran's arms purchases on the political instability that led to the Shah's downfall.

The concluding section is not meant to review and summarize the material discussed in the main body of the work. Instead, it will provide general comments on the subject at hand and raise a few questions on the subject that bear further study.

II. A SURVEY OF AMERICAN ARMS AND WEAPON SYSTEMS SUPPLIED TO IRAN DURING THE PERIOD 1969-1977

During the ten year period 1969-78, the United States supplied Iran with some of the best conventional arms and weapons systems available in the world. Under the policy of what has since become known as the Nixon Doctrine, the sale of these sophisticated weapons was considered in keeping with the best interests of the United States government. The Arab-Israeli war in October 1973 and the subsequent oil embargo and price increase had a signficant impact on all facets of American foreign policy. One outgrowth was a heated debate among scholars and politicians over the effect these events might have on American relations with Iran and the Middle East in general.

The debate focused on the changing nature of the Iranian government. Heretofore Iran had been "strong, proud, confident and yet militaristic, repressive, and self-centered; a price hawk on oil, but a dependable supplier to the United States and Israel; a paranoid and interventionist around the Gulf, but a supporter of conservative pro-Western regimes."[12] For twenty years the Shah had been a constant, a given, a permanent fixture of the Middle East and an island of stability in a sea of pandemonium. However by 1977, the strains of a too rapidly developing society began taking their toll on the Shah and his government. For the first time some analysts

came to the realization that the Shah may not be around forever. Iran's domestic problems became a popular topic of conversation and debate both in the White House and in Congress.[13]

One of the most significant issues of the debate concerned how to fashion American military relations with Iran so as not to exacerbate the Shah's internal problems. The debate was evenly divided between the one side which urged restraint in arms sales to Iran and the other that felt Iran should be militarily strong at any cost. The first side eventually gained legitimacy through President Carter's injunction (PD-13) limiting the introduction of new levels of weapons sophistication into a region. The other side, using the Nixon Doctrine as their platform, lost a good deal of credibility when President Nixon resigned from office. In either case, the debate, as we now know, was focused on too narrow an issue. Questions of human rights, repressive regimes, Iraqi military buildups, and Soviet activity in the Horn of Africa, South Yemen, and Afghanistan, though important, were not necessarily germain to the problem at hand. More to the point was opportunity cost of Iran's vast military expenditures and the impact the economic drain was having on the economy and the society.[14]

This chapter examines American arms transfers to Iran during the last ten years of the Shah's rule of Iran. No attempt is made to analyze these arms acquisitions in terms

of sophistication or practicality as the question is not what weapons were purchased but how much was paid.

A. AMERICAN ARMS TRANSFERS TO IRAN

Following the British withdrawal from the Persian Gulf in 1968, the governments of both Great Britain and the United States urged the Shah to expand his military. In June of that year the Shah visited the United States and requested a reported 600 million dollars in U.S. arms over the next six years. President Nixon formally granted him 100 million for 1969, with the remainder of the request subject to annual review. This represented a major acceleration of purchases as a 1964 agreement had provided for arms sales to Iran of 50 million dollars annually. Furthermore it appears that the Shah was also given "assurances," or an "understanding" was reached, that he would receive a 500 million dollar credit for the acquisition of more Phantom aircraft over the next five years.[15]

In 1970, as Iran was midway through its Fourth Development Plan, the Shah initiated a five year modernization plan for his military forces. This plan included a reorganization of the three services and purchase of sophisticated military hardware from the United States, Great Britain, France, and Italy. The budget for this plan is not in the public domain, but it was without a doubt considerable as approximately one billion dollars was spent on the Iranian defense establishment in 1970 alone.

One further note before reviewing Iran's arms purchases. Estimates of U.S. arms sales to Iran run from a low of 61 per cent to a high of 73 per cent of Iran's total arms purchases. The second largest supplier was the Soviet Union with 11.5 to 20 percent of total acquisitions. Virtually all Soviet arms were delivered prior to 1969 and, as such, not germain to the period of time covered by this study. Arms supplied by other nations are valued in terms that are statistically insignificant in relation to the total of Iranian defense expenditures. As the United States was by far and away Iran's major arms supplier, and as data on U.S. arms transfers is presumed to be more accurate than that obtained from other nations, it is these sales that will receive the greatest attention (See Table I.)

B. AIRCRAFT

During the period 1969-78, the United States supplied Iran's ground, sea, and air forces with the vast majority of their aircraft, be they fixed wing or helicopters. As of 1978 virtually the entire Iranian combat aircraft inventory consisted of American manufactured hardware. As early as 1966 the United States agreed to sell Iran advanced high performance aircraft in the form of the F-4D Phantom. Delivery of the first squadron, consisting of 36 aircraft, was made in 1968. Over the next ten years, the Shah's desire for high technology, high performance aircraft grew by leaps

Table I

Value of Arms Supplied to Iran Between 1967-1976, by Country
($ millions)

United States	3,835
Soviet Union	611
West Germany	275
United Kingdom	270
Candada	45
France	15
Others	222
TOTAL	5,273

Source: DMS Market Intelligence Report, 1979.

and bounds. By 1976 the Shah had received 30 of an ordered 80 F-14A Tomcats, ordered 160 F-16s, and expressed an interest in purchasing the land-based version of the F-18, an aircraft that was still on the drawing board. According to one source, Iran contributed $1.9 billion for the Research and Development (R&D) program for the F-14.[16] Furthermore the Shah had also volunteered to share in the Research and Development cost of the F-18.[17]

Table II provides a summary of the major aircraft procurement programs initiated by the Shah, and the current status of each. The procurements with the status of "uncertain" will probably be cancelled as current political relations between the United States and Iran are all but nonexistent. In either case it is interesting to note that the cancelled aircraft ordered, scheduled for delivery in the 1978-80 time frame, exceed by approximately 50 per cent the value of all aircraft delivered during the preceding ten years.

C. TANKS, APCs, ARTILLERY, AND MISSILES

Prior to 1971, the United States was Iran's major supplier of tanks. At present about one half of the Iranian inventory of over 1,000 tanks consists of American made M-24 Chaffee, M-47 Patton, M-48 and M-60A1 tanks. All were delivered between 1954-62 except 72 M-60A1s delivered in 1974. In 1971, as part of the military modernization plan, the Shah placed

Table II

Major Iranian Aircraft Procurement Programs

Equipment	Quantity	Value ($ millions)	Status
AH-1J helicopters	202	367	Delivered
214A helicopters	287	431	Delivered
214A helicopters	6	4	Uncertain
214C helicopters	39	22	Delivered
CH-47C helicopters	50	425	Uncertain
RH-53D helicopters	6	86	Delivered
SH-3D helicopters	18	363	Delivered
F-4E aircraft	177	857	Delivered
F-5F aircraft	28	102	Delivered
F-14 aircraft	80	930	Delivered
F-16 aircraft	160	3,400	Cancelled
RF-4E aircraft	12	143	Delivered
E-3A AWACS	7	1,200	Cancelled

Total Delivered	3,301
Total Uncertain	429
Total Cancelled	4,600

Source: DMS Market Intelligence Report, 1979.

an order with the British government for 760 Chieftains. These make up the main battle tank contingency of the Iranian armored forces. By 1975 orders were placed for an additional 1,350 Improved Chieftains and 300 Scorpions. These orders have recently been cancelled.

On the other hand the United States has continued to be Iran's major supplier of APCs and essentially the only supplier of artillery. As of 1976 about half of the Iranian army's APCs were American made M-8 Greyhounds and M-113A1s, all of which were delivered prior to 1968. Iran's heavy artillery consists entirely of American made M-107, M-109, and M-110 field pieces delivered between 1968-78.

The Iranian military is equipped with a variety of missiles procured from the United States, Great Britain, and France. Prior to 1970 U.S. missiles in the Iranian inventory consisted primarily of HAWK, Sidewinder AIM-9, and Sparrow AIM-7Fs. However, as part of the military modernization, major purchases of Phoenix AIM-54A (primary armament for the F-14A), Maverick AGM-64, Dragon, TOW, Improved HAWK, and Standard RGM-66 missiles were made. The Iranian inventory is known to contain an equally impressive array of British and French products. Furthermore Iran had signed contracts to purchase TOW missiles and launchers and British BAC Rapier missiles. The Rapier missiles are part of a tracked system, including the U.S. made M-548 vehicle and Marconi Blindfire radar, of which Iran had contributed to the research and development.

Table III annotates Iranian purchases and undelivered orders between 1969-78 of tanks, APCs, artillery, and missiles. An unspecified number of Phoenix AIM-54A missiles were provided with Iran's F-14As and are not reflected in the table.

D. NAVAL VESSELS

Prior to Great Britain's 1968 decision to withdraw from the Persian Gulf, the Iranian Navy was virtually nonexistent. In 1967 the main fleet consisted of a British ex-Battle Class frigate and two American ex-Pf-103 class Corvettes. Again however, with the military modernization program, the Iranian Navy was greatly expanded. As can be seen in Table IV, the Shah's preoccupation with highly sophisticated marine hardware was much the same as that for aircraft.

E. IRANIAN MILITARY EXPENDITURES

During the years 1970-77, the Iranian government devoted approximately 31 per cent of its total annual budget to military expenditures. Furthermore, according to Theodore H. Moran, ". . .there is evidence that civilian accounts included sizable military allocations (e.g., approximately 70 per cent of the 'public housing' outlays in recent years have gone for military construction) that could amount to an additional 3 to 5 per cent of the central government's budget."[19] All this adds up to a fairly substantial outlay, something over $9 billion in 1977. However, it must be remembered that only a small

Table III

Major Iranian Tank, Armored Personnel Carrier, Artillery, and Missile Procurement Programs

Equipment	Quantity	Value ($ millions)	Status
M-60A1 tanks	72	NA	Delivered
M-113A1 APCs	358	42	Uncertain
M-107 howitzers	8	13	Delivered
M-109 howitzers	390	123	Delivered
M-110	37	16	Delivered
Phoenix AIM-54A	400	282	Cancelled
Sidewinder AIM-9	768	NA	Delivered
Sparrow AIM-7F	1200[e]	NA	Delivered
Maverick AGM-65	1000	26	Delivered
Maverick AGM-64	2500	64	Uncertain
Harpoon AGM-84	222	140	Cancelled
TOW BGM-71A	1000[e]	7	Delivered
TOW BGM-71A	15000	104	Uncertain
Dragon	10000	147	Uncertain
HAWK MIM-23A	650	215[e]	Delivered
I-HAWK MIM-23B	1800	600	Cancelled
	Total Delivered	400	
	Total Uncertain	357	
	Total Cancelled	1022	

NA - data not available

e - estimate

Source: DMS Market Intelligence Report, 1979.

Table IV

Major Iranian Naval Vessel Procurement Programs

Equipment	Quantity	Value ($ Millions)	Status
DD-963 destroyers	4	1,467	Cancelled
TANG submarines	3	54	Cancelled
MK-III patrol craft	19	10	Delivered
PGM-71 patrol craft	3	NA	Delivered
CAPE class coastal craft	4	NA	Delivered
	Total Delivered	10	
	Total Cancelled	1,521	

NA - data not available

Source: DMS Market Intelligence Report, 1979.

portion of this expenditure was devoted to the actual purchase of American and other foreign manufactured arms. During the same 1970-77 time frame arms importation expenditures averaged 23.8 per cent of total defense expenditures, or slightly less than 5 percent of the total government expenditures. This amounts to slightly less than $1.5 billion in 1976, and only about $5.5 billion for the period 1968-76. Though still a substantial sum, it is a far cry from the National Voice of Iran's $30 billion figure cited earlier.

In terms of constant 1969 dollars, Iran's total government expenditures, defense expenditures, and arms importation expenditures grew at similar rates through the period 1970-77, 28.29%, 26.6%, and 21.2% respectively. (See Table V.) General government expenditures received an impressive boost following the 1973 oil price hikes. Prior to 1973 the growth rate of government expenditures had averaged 11.8 per cent, and after 1973 the figure fell to 8.3 per cent. These lower figures are more characteristic of Iran's government expenditure growth than is the earler quoted 28.2 per cent. The key to this vast disparity in growth rate averages is the incredible 137.3 per cent increase that occurred in 1973.

Defense expenditures and arms importation outlays show a generally greater growth stability through 1970-77 than do the general expenditures. Arms import expenditure growth, as would be expected, peaked in 1971 following the American and British encouragement to purchase arms and the establishment

TABLE V

Iranian Military Expenditures (1970-77) (Rls. bn)

	1970	1971	1972	1973	1974	1975	1976	1977
Total Govt. Expenditures[a]	242.4	301.4	380.3	504.4	1287.3	1614.2	1933.3	2512.2
Defense Expenditures[b]	54.1	73.2	131.9	254.0	353.4	492.3	662.2	592.4
Arms Imports[c]	12.1	24.2	39.4	40.8	60.8	81.8	101.8	NA
Arms Exports[c]	---	---	---	0.1	2.4	3.6	2.5	NA
% of Total Expenditures (Constant 1969 Rials)								
Defense Expenditures	22.3	24.3	34.7	50.4	27.5	30.5	34.3	23.6
Arms Imports	4.9	7.4	8.0	5.4	2.9	2.8	2.5	NA
Arms Imports as a % of Def. Exp.	22.4	33.1	29.9	16.1	17.2	16.6	15.4	NA
Growth Rate (Constant 1969 Rials)								
Total Govt. Exp.	NA	15.7	6.8	12.9	137.3	13.7	0.7	10.6
Defense Expenditures	26.3	26.1	52.4	63.9	29.4	26.3	13.0	-23.8
Arms Imports	-29.2	86.6	37.8	-11.8	38.2	22.0	4.6	NA
Arms Exports	---	---	---	---	-2400.0	33.3	-40.0	NA

Source: [a]International Monetary Fund, International Financial Statistics, 1979.

[b]SIPRI Yearbook, 1979

[c]1970-71: World Military Expenditures and Arms Transfers, 1966-75; 1972-77: DMS Market Intelligence Report, 1979.

of the military modernization program. Defense expenditure growth started to peak the following year and reached a high point of 63.9 per cent in 1973, corresponding to the increase in total government expenditures. Finally, in spite of the rapid development of Iran's military and the vast sums expended on weapons, it should be noted that deliveries made to Iran amounted to only 28.3 percent of the dollar figure for agreements signed by the Shah's government. (See Table VI.)

Table VI

Foreign Military Deliveries to Iran Versus Agreements Signed
($ millions)[20]

	1969	1970	1971	1972	1973	1974	1975	1976	Total
Agreements	251.6	113.2	396.8	519.1	2157.4	4373.2	3021.0	1382.1	12214.3
Deliveries	94.9	127.7	79.4	214.8	236.6	519.3	956.4	1231.6	3460.7

Source: U.S. Department of Defense, Foreign Military Sales and Military Assistance Facts: December 1976, published by Data Management Division, Comptroller, DSAA.

III. A REVIEW OF IRAN'S ECONOMIC DEVELOPMENT PLANS, 1968-1978

In 1946 the Shah of Iran established the High Planning Commission and tasked it with the preparation of an economic development plan for the nation. The first seven-year plan was adopted by the Majlis (Iran's Parliament) in 1949 and covered the period 1949-55. The plan called for a total expenditure of Rls.21 billion (approximately $646 million). As may be recalled from the Introduction, Mohammad Mossadegh seized the Shah's powers in 1953 and nationalized all foreign oil holdings in Iran. The ensuing international boycott destroyed Iran's economy and with it the First Development Plan.

In 1955, with the Shah back in control, the second seven-year development plan was approved. The plan projected an outlay of just of Rls.70 billion ($933 million) between 1955-62. This figure was increased to Rls.84 billion in 1957 and the following year the plan underwent a complete revision. The Second Development Plan's success is dubious at best, as a large share of the expenditures were directed toward restoring the chaos left behind by Mossadegh.

The first attempt at a sophisticated, comprehensive development plan came in 1963 with the Third Development Plan. This, the first of the five year plans, called for an expenditure of nearly Rls.400 billion ($5.2 billion)--a considerable increase over the First and Second plans--and covered the years

1963-67. It was during this Third Development Plan that Iran took its first giant steps towards modernization. Notably, the foundations were laid for most of Iran's steel, machine tool, and petrochemical industries; the Shah's ambitious Land Reform Program was planned and executed; and a vast amount of the nation's agriculture related resources, including forests, pastures, and water supplies, were nationalized. One of the goals of the Third Plan was to increase the nation's Gross National Product (GNP) by at least 6 per cent annually. According to Iranian statistics the achieved GNP growth amounted to 8.8 per cent per year, hence, the plan was dubbed a success.[21]

It is however the period encompassing the Fourth and Fifth Development Plans with which this paper is concerned. This chapter will endeavor to review the Iranian Government's development planning for the period 1968-78 and the budgetary data that these plans indicate. (See Table VII.)

A. THE FOURTH DEVELOPMENT PLAN (1968-73)

The Fourth Plan had as its principal goal a 9 per cent annual increase in GNP. Population growth during this period was projected at 2.6 per cent and it was hoped that per capita income would reach RLS.26,900 ($359) by 1973--a 32 per cent increase over the 1968 level. To achieve this growth a fixed investment of Rls.810 billion ($10.8 billion) would be needed. Of this Rls.810 billion, it was hoped that Rls.745 billion would be obtained from domestic sources with the balance from

Table VII

Proposed and Actual Public Investment Expenditure

Under the Fourth Development Plan (1968-78) (Rls. bn)

	Proposed (%)*	Actual (%)**
Total	480 (100.0)	506.8 (100.0)
Agriculture	87.4 (18.2)	41.2 (8.1)
Petroleum	93.6 (19.5)	79.7 (15.7)
Industry & Mining	107.2 (22.3)	113.1 (22.3)
Services	192.0 (40.0)	272.8 (53.9)

Source: *OPEC till 1985; **Bank Markazi Iran, Annual Report and Balance Sheet, 1975.

foreign investors. On the domestic side, 55 per cent was to come from the public sector and 45 per cent from the private sector. Oil revenues were to provide the main source of funds for the development. Of the projected Rls.487 billion oil revenue, 80 per cent was to be devoted to development. Finally, annual industrial and agricultural sector growth rates were targeted at 13 and 4.5 per cent respectively.

By all accounts and indexes the Fourth Development Plan was more successful than the Shan's planners could have thought possible. (See Tables VIII-XIII.) GNP achieved an average growth rate of 13.8 per cent and by 1973 per capita GNP in real 1969 terms reached Rls.38,681--an anverage increase of 10.4 per cent per year. Investment targets were exceeded in the industry, mining, and public services sectors. However, the growth rate for industry and mining fell short of the mark by approximately 2.8 per cent. Investment in the petroleum sector amounted to 85 per cent of the target figure. Yet, due to the 1973 oil price hike, the sector achieved an average growth of nearly 50 per cent per year. Only agriculture suffered markedly during the Fourth Plan. Public and private investment in the agriculture sector amounted to only 47.2 per cent of the Rls.87.4 billion target figure. As a result, agriculture's input to the Gross Domestic Product (GDP) fell by approximately one quarter of one per cent per year, requiring an increase in food imports from Rls.1.3 billion in 1968 to Rls. 8.5 billion in 1973.

Table VIII

GDP and Sectoral Output in Current Prices (1968-77) (Rls., billions)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
GDP	658.8	741.9	841.5	1014.3	1268.4	1868.6	3137.0	3561.1	4606.1	5393.3
Agriculture	154.4	164.5	178.4	187.3	199.1	231.8	296.1	327.5	451.4	507.0
Oil and Gas	91.4	106.1	126.8	196.0	242.5	761.5	1587.9	1349.0	1810.4	1930.8
Industry and Mines	144.1	167.3	186.7	222.9	367.4	328.1	451.0	676.5	815.4	1030.1
Services	268.9	304.0	349.6	408.1	459.4	547.2	802.0	1208.1	1529.4	1925.4

Source: Data compiled from the following sources; Bank Markazi Iran, Annual Report and Balance Sheet, 1975; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

Table IX

GDP and Sectoral Output in Constant 1969 Prices (1968-77) (Rls., billions)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
GDP	667.5	741.9	829.6	930.6	984.7	1234.5	1926.9	1982.7	2155.4	2148.8
Agriculture	156.4	164.5	175.9	171.8	154.6	153.1	181.9	182.3	211.2	202.0
Oil and Gas	92.6	106.1	125.0	179.8	188.3	503.1	975.4	751.1	847.1	769.3
Industry and Mines	146.0	167.3	184.0	204.5	285.2	216.8	277.0	376.6	381.5	410.4
Services	272.5	304.0	344.7	374.5	356.6	361.5	492.6	672.7	7.516	767.1

Source: Data compiled from the following sources: Bank Markazi Iran, Annual Report and Balance Sheet, 1975; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

Table X

Sectoral Output as a Percentage of GDP in Constant 1969 Prices (1968-77)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977
Agriculture	23.43	22.17	21.20	18.46	15.70	12.40	9.44	9.19	9.80	9.40
Oil and Gas	13.88	14.30	15.07	19.32	19.12	40.75	50.62	37.89	39.30	35.80
Industry and Mines	21.87	22.55	22.18	21.98	28.96	17.56	14.38	18.99	17.70	19.10
Services	40.82	40.98	41.55	40.24	36.22	29.28	25.56	33.93	33.20	35.70

Source: Data compiled from the following sources: Bank Markazi Iran, Annual Report and Balance Sheet, 1975; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

Table XI

Average Sectoral Output as a Percentage of GDP Through the Fourth and Fifth Development Plans

	1968-72	1973-77	1968-77
Agriculture	20.19	10.05	15.11
Oil and Gas	16.34	40.87	28.60
Industry and Mines	23.51	17.55	20.56
Services	39.96	31.53	35.73

Source: Data compiled from the following sources: Bank Markazi Iran, *Annual Report and Balance Sheet, 1975*; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

Table XII

GDP and Sectoral Growth Rates in Constant 1969 Prices (1969-77)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
GDP	11.15	11.82	12.17	5.81	25.37	56.09	2.90	8.71	-0.31
Agriculture	5.18	6.93	-2.33	-10.01	-0.97	18.81	0.22	15.85	-4.36
Oil and Gas	14.58	17.81	43.84	4.73	167.18	93.88	-23.00	12.78	-9.18
Industry and Mines	14.59	9.98	11.14	39.46	-23.98	27.77	35.96	1.30	7.58
Services	11.56	13.39	8.65	-4.78	1.37	36.27	35.56	6.38	7.20

Source: Data compiled from the following sources: Bank Markazi Iran, Annual Report and Balance Sheet, 1975; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

Table XIII

Average Sectoral Growth Rates Through The Fourth and Fifth Development Plans

	1968-73	1974-77	1968-77
GDP	10.23	16.85	14.86
Agriculture	-0.24	7.63	3.26
Oil and Gas	49.63	18.62	35.85
Industry and Mines	10.24	18.15	13.76
Services	6.04	21.60	12.96

Source: Data compiled from the following sources: Bank Markazi Iran, Annual Report and Balance Sheet, 1975; Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72); Jahangir Amuzegar, Iran: An Economic Profile; Robert E. Looney, Iran at the End of the Century; and OPEC till 1985.

During the course of the Fourth Development Plan a number of major industrial projects initiated during the Third Plan were completed. These included the Isafahan Steel Complex, the Rolling Mills Plant in Ahvaz, metal plants at Arak and Tabriz, three petrochemical projects on the Persian Gulf coast, and the Andimeshk tractor assembly plant in Tabriz. These projects were the outgrowths of a policy to introduce industry outside of the Tehran region by designating Rasht, Shiraz, and Mashhad as new industrial centers. Additionally the Economic Ministry allocated a number of special projects to the provincial areas where industrial stimulation was sorely needed.[22]

B. THE FIFTH DEVELOPMENT PLAN (1973-78)

Iran's Fifth Development Plan for the five-year period 1973-78 was originally approved by the Majlis in February of 1973. Total investments for the Plan were envisioned to be Rls.2500 billion ($36.4 billion) with the public and private sector providing 63 and 37 per cent respectively. However, subsequent sharp increases in oil prices and government revenues during 1973 and 1974 radically altered the Plan's financial projections and called for a wholesale revision of the target figures. Contrary to the previous plans, the revised Fifth Plan was formulated under conditions where financial resources did not constitute a constraint. The revised Plan projected a total fixed capital investment of Rls.4,699 billion (nearly $70 billion), almost twice the figure of the

original Fifth Plan, and over six times larger than the Fourth Plan. Interestingly, according to Bank Markazi Iran, the "absorptive capacity of the economy (was) the most important determining factor in the allocation of additional financial resources."[23] (See Table XIV.)

In revising the Fifth Plan, four basic considerations were given priority attention. First, given rapidly rising oil prices and government revenues, the Shah's planners sought to attain the maximum balanced and steady rate of economic growth with minimum prices increases. Second, inherent drawbacks such as insufficient skilled manpower, raw material shortages, and inadequate infrastructure were taken into account. Third, a concerted effort was made toward coordinating the five-year plan with annual budgets. Finally, a 20-year general economic development plan was developed to link the Fifth, Sixth, and future plans.

According to Jahangir Amuzegar the revised Plan envisioned six qualitative targets. In descending order of priority they are:

(1) to raise living standards of all social strata in economy, and to enhance social justice by providing equal economic, political and cultural opportunities for all individuals and groups;

(2) to maintain a high and sustained rate of growth consistent with relative price stability and a more equitable distribution of national income and welfare;

(3) to improve the quality and size of the country's active labor force in order to increase productivity;

(4) to preserve, rehabilitate and improve the environment, especially in overpopulated areas;

Table XIV

Proposed and Actual Total Fixed Investment Expenditure Under the Original and Revised Fifth Development Plans (1973-78) (Rls. bn)

	Proposed*		(1973-June 1977)
	Original (%)	Revised (%)	Actual (%)**
Total	2461.0 (100.0)	4699.0 (100.0)	1460.7 (100.0)
Agriculture	152.6 (6.2)	310.1 (6.6)	285.7 (19.6)
Petroleum	460.2 (18.7)	789.4 (16.8)	147.4 (10.1)
Industry & Mining	551.3 (22.4)	845.8 (18.0)	601.0 (41.1)
Social Services	1296.9 (52.7)	2753.7 (58.6)	426.6 (29.2)

Source: *Plan and Budget Organization, Planning Division, Planometrics Bureau, Iran's Fifth Development Plan, 1973-1978, Revised, A Summary (Tehran, Iran: May 1975); **Bank Markazi Iran, Annual Report and Balance Sheet, various issues.

(5) to upgrade the level of science, technology and creativity; and

(6) to preserve the country's cultural heritage.[24]

In light of recent events, it would seem that these qualitative objects would have been more agreeable to the general populus had their priority been reversed.

The Plan and Budget Organization predicted that, during the period of the Fifth Plan, Iranian Government receipts would amount to approximately Rls.8,297 billion, of which roughly 80 per cent would come from the sales of oil and natural gas. Of total government disbursements, 41 per cent was to be devoted to current accounts, 34 per cent for fixed investments provided for in the revised Development Plan, 9 per cent for overseas investments, and the remaining 16 per cent was earmarked for foreign loan repayments and miscellaneous expenditures.

In March 1973, at the conclusion of the Fourth Development Plan, Iran's GNP at current prices was Rls. 1231 billion (about $17.9 billion), representing a per capita GNP of Rls. 40,311 ($585). Under the revised Fifth Plan, the GNP (at constant 1972 prices) was expected to reach Rls. 3,686 billion ($55.0 billion). Per capita GNP, based on a projected 16 per cent population increase, was expected to reach Rls. 102,664 or more than $1520 in constant 1972 prices.

The first four years of the revised Fifth Plan's operations showed some degree of success, although achievements

were generally behind scheduled targets. Total fixed investment expenditure had reached only 31.3 per cent of the total planned outlay. Among the various sectors, agricultural investment was the highest with 91 per cent of the target expenditure, industry and mining had reached 71 per cent, the petroleum sector in 1977 had reached only 18.7 per cent of its target, and the figure for social services was a dismal 15.5 per cent. As a result GNP had averaged a 17.3 growth rate, 8.6 per cent shy of the 25.9 per cent target. Per capita GNP suffered in a similar manner.

Quoting Jahangir Amuzegar once again,

> The principal responsibility for the gap between ex-ante and ex-post growth targets could be traced to a reduction of oil exports in 1975/76, infrastructural bottlenecks (particularly ports and transport facilities), acute shortages of skilled manpower and management talent, and many unfavorable effects of worldwide recession cum inflation on the availability and prices of imports and freight. The remaining two years (author's note: Amuzegar's data only went through 1976) of the Plan may still make up for part of these losses.[25]

C. THE DEVELOPMENT PLANS, THE BUDGET, AND MILITARY EXPENDITURES

An in depth analysis of the relationship between development expenditures, budgetary problems and expenditures, and military expenditures is the object of the next chapter on Iran's economy. However, at this point it may be useful to summarize briefly the connections evidenced in this and the preceeding chapter, and to theorize a little about the relationships themselves.

During the period of the Fourth Development Plan, Iran's defense expenditure grew at the rate of 26.6% per year. Total government expenditures grew at the even higher rate of 28.2 per cent. The investment target of Rls.480 billion was not only met but exceeded by roughly 5.5 per cent. Iran's Gross Domestic Product averaged a growth of 13.3 per cent annually and per capita GNP grew each year at 11.3 per cent. Given these figures, should there be argument against the high level of defense expenditures? Probably not. Iran's consumer price index rose 23.8 per cent between 1969 and 1973. To the average consumer this meant an inflation rate of about 6 per cent. This may seem low in comparison to the 14 per cent or higher inflation currently being felt in the United States, but for a deveoping nation with a per capita income of less than $600 six per cent inflation is a significant figure. More often than not, government expenditures are the principal cause of inflation. Defense expenditures during the Fourth Development Plan amounted to over Rls 410 billion or about 31 per cent of the amount invested in development. Had a significant portion of the defense expenditures been channeled into development, Iran's already burdened absorptive capacity would have merely translated the funds into higher consumer prices. As shall be seen in Chapter III, the opportunity cost for development investments was very low outside of the oil sector.

Economic relationships during the term of the Fifth Development Plan are not nearly as clear cut. Government

expenditures grew at an annual rate of 35 per cent, however this figure is deceiving. Government expenditures from 1973 to 1974 grew 137.3 per cent, yet from 1975 to 1976 the growth was a minute 0.7 per cent. In real terms, government revenues grew by less than 6 per cent in 1975 due to a 14.9 per cent reduction in the volume of crude oil exports and a mere 0.2 per cent price increase. When wide fluctuations in government revenues and expenditures occur, such as those experienced in Iran between 1973-76, the economic sectors most likely to suffer are those that are dependent on long term investment planning. Development plans, once devised and approved, are difficult to alter. The plan is, more often than not, not a guideline but a detailed schedule. It tells the nation's administrators not only how much to spend and what to spend it on, but furthermore when to spend it. Iran's development goals for the first year of the Fifth Plan, 1973, were easily met, but the substantial excess funds (probably burning a hole in the Shah's pocket) were quickly channeled into non-productive, noncapital forming projects such as military modernization.[26] To make matters worse, target expenditures for the Fifth Plan were nearly doubled. This revision, in all probability, was based not on sound economic planning, but on the euphoria of sudden wealth. By 1976-77, the current expense created by earlier investment in various noncapital forming enterprises including not only defense but a wide

variety of social, educational, and welfare programs, caught up with the revenue increases of 1973 which had gone relatively unchanged since that year. Funds for development investment were still available in quantities higher than ever before, but they were insufficient to meet the expectations of the Fifth Plan.

The data presented in these first two chapters is insufficient to evaluate the foregoing to any state above that of supposition. However, in the following chapter an attempt is made to substantiate these hypotheses based on Iran's economic and budgetary statistics.

V. AN ANLAYSIS OF IRANIAN ECONOMIC PERFORMANCE DURING THE PERIOD 1968-78

Prime Minister Mossadegh's May 1951 decision to nationalize the Anglo-Iranian Oil Company (AIOC) was not a carefully planned move. Given the disastrous results of the nationalization it would appear that the Majlis passed the bill with the belief that it simply meant channelling the profits from AIOC stockholders' pockets into the Iranian treasury. In fact it meant operating the oilfields and the sophisticated Abadan refinery as well as marketing both crude and refined petroleum products. Since most key functions of the industry and marketing had previously been run by expatriate personnel, Mossadegh was unable to maintain production. As a result, the Iranian oil industry virtually closed down from 1951 until 1954. In purely economic terms, as oil was the backbone of the Iranian economy, the net result was a near total collapse of Iran's hitherto booming economy.

However, since the mid-1950's, the Iranian economy has grown rapidly. In August 1954 Iran, once again under the Shah's leadership, negotiated a new oil agreement with a Consortium (known as the Seven Sisters) of major oil companies.[27] The agreement provided for a fifty/fifty division of profits, gave the Iranian government sovereignty over certain non-essential operations, and compensated the AIOC very substantially for losses incurred by nationalization. However,

unknown to Iran, the Seven Sisters worked out a secret agreement governing future oil production levels from Iranian fields. Production was to be balanced against the major oil companies global oil interests so that any production increase was the result of internal agreement. As such, Iranian revenues were entirely dependent upon the production level set by the Consortium. The details of this agreement were kept secret until 1967.[28]

Throughout the 1960s world demand for crude oil increased rapidly so that by 1970 the industry became a seller's market. Furthermore, increased militancy within OPEC slowly improved Iran's bargaining position in relation to the Consortium. Nowhere was this enhanced position more evident than in the Tehran Agreements of February 14, 1971, between Persian Gulf oil producers and the major oil companies. The agreements were highly complex, but the major thrust was that for the first time producers were to receive compensation for losses of purchasing power through inflation and dollar fluctuations. Between 1970 and 1972 Iranian oil production increased 32 per cent to 5.02 million barrels per day while revenues more than doubled from $1.12 billion to $2.39 billion. On March 20, 1973, the Consortium handed over all remaining operations and ownership to the National Iranian Oil Company. Iran had finally achieved what Mossadegh had failed to accomplish, and was now able to rely on oil as its principal source of revenue.

This chapter analyzes Iran's economic performance during the ten years prior to the Shah's fall from power in January 1979. This will include a review of aggregate and sectoral growth, employment, price stability, income distribution, investment opportunity cost, and absorptive capacity. Furthermore an attempt is made to estimate the impact of arms transfers on these economic arenas and a subjective estimate of the possible effects of rechannelling arms expenditures into other investments during the period.

A. ECONOMIC GROWTH: AGGREGATE AND SECTORAL

According to Robert Looney:

> The easiest task in examining the growth of any country is to describe what has happened in terms of its overall macroeconomic trends and growth rates in the key sectors. A more difficult task, particularly in the case of Iran, is to explain why certain events happened, and how specific goals set for the economy by the authorities were or were not achieved. It may be trite--but still true--to state that the process of development in Iran is complex and poorly understood.[29]

A truer statement will not be found in all the available literature on the Iranian economy. An even more nebulous area of analysis is the impact of Iran's military expenditures on that country's economic growth. There is little agreement as to which features of Iran's economy were "good" and which were "bad." And there is even less agreement as to whether or not Iran's arms expenditures adversely affected economic growth. However, few would agrue that Iran's economic performance since the mid-1960s has not been generally superb.

The Gross Domestic Product's (GDP) growth behavior during the 1968-1978 period may be divided into two distinct periods. Between 1968 and 1972, coinciding with the Fourth Plan, the GDP grew at 9.86 per cent--marginally exceeding the Plan's nine per cent target. After the 1973 oil price increases, the annual real growth rate reached a spectacular 25.24 per cent in 1973 and 56.73 per cent in 1974. However, stabilized prices and reduced petroleum production provided for a growth rate of only 3.81 per cent during the period 1975 to 1977. Thus the growth rate during the Fifth Plan (through 1977) was 18.68 per cent. During the 10 year period, Iran's GNP increased from a mere $8.3 billion in 1968 to more than $30 billion in 1977. Per capita income went up from $306 to $880, a 186 per cent increase in real purchasing terms.

Referring once again to Tables VIII through XIII, the crucial role of the oil and gas sector to the Iranian economy can clearly be seen. This importance is not only applicable to aggregate supply but, as can be seen in the consumption figures in Tables XV and XVI, to aggregate demand as well. Oil revenues, as a readily available source of foreign exchange and the main component of the government's income, played a critical role in advancing both consumption and public investment expenditures. This, in turn, provided a boost to private consumption through monetary injection into the expansion of credit. On the supply side, the oil and natural gas sector provided the major impetus for general economic

Table XV

GDP, Total Consumption, and Private Consumption in Current Prices (1969-77)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Population (millions)	27.9	28.7	29.8	30.6	31.3	32.2	33.0	33.6	34.3
GNP (Rls bn)	708.0	801.9	968.2	1231.5	1832.7	3124.0	3518.8	4571.5	5347.6
Per Capita GNP (Rls)	25385	27980	321512	40311	58553	97200	106566	136097	156043
Total Consumption (Rls bn)	591.9	678.9	756.2	939.2	1205.1	1756.1	2123.4	1536.1	3234.6
Consumption per capita (Rls)	21223	22641	25393	30743	38502	54639	64306	75502	94386
Private Consumption (Rls bn)	470.7	537.3	566.9	686.6	879.7	1127.8	1316.0	1532.5	2160.8
Private Consumption per Capita (Rls)	16877	18747	19036	22475	28105	35090	39855	45624	63052
Total Consumption as a % of GNP	83.6	84.7	78.1	76.3	65.8	56.2	60.3	55.5	60.5
Private Consumption as a % of GNP	66.5	67.0	58.6	55.8	48.0	36.1	37.4	33.5	40.4

Annual Per Cent Rate of Growth

	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77
Population	2.76	3.91	2.59	2.45	2.68	2.74	1.73	2.02
GNP	13.26	20.74	27.19	48.82	70.46	12.64	29.92	16.98
Per Capipta GNP	10.22	16.20	23.99	45.25	66.00	9.64	27.71	14.66
Total Consumption	14.70	11.39	24.20	28.31	45.72	29.92	19.44	27.54
Consumption per Capita	6.68	12.15	21.07	25.24	41.91	17.69	17.41	25.01
Private Consumption	14.15	5.51	21.11	28.12	28.20	16.69	16.45	41.00
Private Consumption per Capita	11.08	1.54	18.07	25.05	24.85	13.58	14.47	38.20

Source: International Monetary Fund

Table XVI

GDP, Total Consumption, and Private Consumption in Constant 1969 Prices (1969-77)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
GNP (Rls)	708.0	790.5	888.3	956.0	1210.7	1918.9	1959.1	2139.0	2130.6
Per Capita GNP (Rls)	25385	27582	29829	31293	28681	59704	59331	63680	62171
Total Consumption (Rls bn)	591.9	668.3	714.1	832.9	973.7	1241.4	1331.4	1428.7	1431.4
Consumption per capita (Rls)	21223	23318	23979	27264	31109	38625	40321	42533	41768
Private Consumption (Rls bn)	470.7	524.6	515.9	595.0	606.8	760.5	812.0	854.2	1010.8
Private Consumption per Capita (Rls)	16877	18304	17324	19476	22262	23662	24591	25430	29495
Total Consumption as a % of GNP	83.6	84.5	80.4	87.1	80.4	64.7	68.0	66.8	67.2
Private Consumption as a % of BNP	66.5	66.4	58.1	62.2	57.6	39.6	41.4	39.9	47.4

Annual Per Cent Rate of Growth

	1969-70	1970-71	1971-72	1973-73	1973-74	1974-75	1975-76	1976-77
GNP	11.65	12.37	7.62	26.64	48.50	2.09	9.18	-0.39
Per Capita GNP	8.65	8.15	4.91	23.61	54.35	-0.62	7.33	-2.37
Total Consumption	12.91	6.85	16.64	16.90	27.49	7.25	7.31	0.19
Consumption per Capita	9.87	2.83	13.70	14.10	24.16	4.39	5.49	-1.80
Private Consumption	11.45	-1.66	15.33	17.11	9.14	6.77	5.20	18.33
Private Consumption per Capita	8.46	-5.35	12.42	14.30	6.39	3.93	3.41	15.99

Source: International Monetary Fund

growth performance. During the period 1968-73, while the economy enjoyed a real annual growth rate of 13.3 per cent, the major contribution was provided by the social services sector including transportation, communications, domestic trade, home rentals, and public and private services. However, during the 1973-78 period, coincident with the Fifth Development Plan, while the economy clipped along at a real growth rate averaging better than 16.8 per cent, the major financial impetus was provided by the oil sector, followed by social services. The value added by the oil and gas sector (i.e. that sector's contribution to GDP in real terms) rose from 13.9 per cent in 1968 to a high of 50.6 per cent in 1974 and falling to 35.8 per cent in 1977--an average annual growth of 35.8 per cent!

In 1975, under the impact of worldwide recession, and a 23 per cent decline in the value added of the oil sector, the overall growth rate of GDP fell to 2.9 per cent. The non-oil GDP, however, rose 29.4 per cent during the same year. The loss of oil revenues had a delayed effect on the non-oil GDP as the non-oil growth averaged only 5.8 per cent during 1976-77. This serves to demonstrate the tight linkage between oil production and economic growth.

Table XII shows the growth behavior of the different economic sectors during the period 1969-77 while Table XIII shows the average growth rates during the periods of the Fourth and Fifth Development Plans and over the entire nine year period.

As can be seen the industrial and mining sector experienced a relatively high growth rate of 13.8 per cent per annum, likewise services grew at an average rate of just under 13.0 per cent. The agricultural sector, however, grew at an annual rate of a mere 3.3 per cent. The poor performance of agriculture is not surprising as, like many rulers of developing countries with a large agricultural sector and an impoverished rural populace, the Shah mixed politics and agricultural development usually to the detriment of the latter. The Shah treated agricultural development as an issue of land ownership and the allegiance of the rurual masses rather than the economic one of production.[30] Thus as the economy began to stimulate demand and the standard of living rose, Iran suddenly encountered a shorage of domestically produced foodstuffs. However, at the moment when structural reforms should have been introduced to eradicate the problem, there seemed so many other priorities (e.g., defense modernization) that the agricultural sector was routinely ignored.

It would seem ironic that the introduction of land reform coincided with the beginning of agriculture's decline in overall importance in the economy. Several authors,[31] currently critical of the Shah's development scheme, claim that the Shah deliberately sacrificed agriculture in order to concentrate on the development of industry and infrastructure. In so far as agriculture received some 16.6 per cent of the investment expenditure under the Fourth and Fifth

Development Plans this criticism would appear to be a distortion. It would seem more likely that, with the government's energy devoted to industrialization, the Shah lacked the will or desire to follow through at the ground level the difficult and time consuming task of making his land reform program work. In purely monetary terms the agricultural sector received a sizable proportion of the investment pie.[32]

The excellent growth rate of Iran's industrial and mining sector rolled off sharply in 1976-77 because of two fundamental problems faced by many developing nations. First was the problem of improving the international competitiveness of Iranian industrial products. The key to this difficulty is per capita productivity. For whatever reason neither monetary incentives nor improved training provided the per capita productivity increases necessary to give Iran the required competitiveness.[33] Secondly, in the waning years of his reign the Shah slowly fell victim to the lure of self-sufficiency. This desire for independence, overshadowed industrial cost factors, efficiency, and, in the end, consumer interests.

As mentioned earlier the growth rate of the services sector was approximately equal to that of industry during the 1968-77 period. Within the services sector banking and insurance displayed the highest annual rate of growth; followed closely by housing rentals and public services; while domestic trade, transportation and communication, and private services lagged substantially behind. The growth in banking services

reflected the proliferation of branch banking, increased credit availability, and the rapid monetization of the economy. The expansion of other services was due primarily to the increased role of both the public and private sectors in meeting the increased socio-economic demands of Iran's more affluent populous.

As a result of the disproportionate sectoral growth rates the composition of the economy and the relative sectoral contributions to GDP changed considerably from 1968-77. The value added by agriculture in 1968 made up 23.4 per cent of GDP (Table X) but by 1977 this had dropped to only 9.4 per cent in real terms. Agriculture, once the largest single sectoral contributor to the Iranian economy, had thus become dwarfed by other sectors. The spectacular growth enjoyed by the oil and gas sector was mainly a result of higher oil prices. And, though non-oil sectoral output increased in absolute terms, it was principally due to oil's increased share of GDP that the non-oil sectoral shares fell.

B. EMPLOYMENT

Detailed data on employment in Iran are not readily available.[34] Nevertheless, the extent to which job opportunities have been created--and filled--is important in evaluating the success of the country's economic growth and its ability to utilize oil revenues in bettering the people's standard of living. Iran's high rate of population growth (averaging

nearly 2.7 per cent from 1968 to 1978) has meant that increasingly larger numbers of new workers joined the labor force each year, and it was necessary to employ these laborers in order to minimize social and civil strife. It is estimated that Iran's labor force grew at an average annual rate of 3.5 per cent during the period 1968 to 1978 (Table XVII). The additional eight tenths of one per cent over the population growth rate can be attributed principally to increased employment opportunities for women as the Shah liberalized (by decree) the nation's attitudes towards women in public life.[35] It should also be noted that due to the substantial wage inequality between agricultural and non-agricultural employment a significant number of new non-agricultural job opportunities were needed to provide employment for farmers who migrated to the cities in search of higher pay.[36]

Iran's efforts to reduce unemployment during the 1960s and early 1970s were fairly successful. As oil revenues increased and the economy grew, numerous jobs opened in the industrial and service sectors. By 1974, following the oil price increases of the previous year, the employment boom reached a point where there were more jobs than laborers--particularly in the area of skilled labor. Even a tripling of higher education enrollment in the decade prior to 1976 failed to provide the requisite number of skilled workers.[37]

However, in 1974 the employment trend reversed itself. With a decline in oil revenues, the government's failure to meet investment goals of the Fifth Development Plan, a rapid influx of unskilled and uneducated rural dwellers into the cities, a continually growing shortage of managerial and skilled laborers, a higher percentage of the female population joining the labor force, and the still rapidly increasing population, unemployment once again became a problem. By 1978 it is conservatively estimated that 7 to 8 per cent of the labor force was unemployed. Other, perhaps more accurate estimates, run as high as 15 to 20 per cent.[38]

Insofar as sectoral labor statistics are concerned, the percentage figures shown in Table XVII are probably more representative of the period's trends than are the actual employment figures. As can be seen in the Table, agricultural employment fell from 46.1 per cent of the labor force in 1968 to only 29 per cent by 1978. Many of these generally uneducated ex-farmers found employment in industry, mining, construction, etc., while a few entered the social sector or the armed forces. Of particular interest is the number of personnel employed by the petroleum industry. Though the oil and gas sector work force doubled during the decade following 1968, it should be noted that in 1978 the sector employed less than one per cent of Iran's total labor force. Thus investment in the petroleum sector provided essentially no direct source of new jobs.

Table XVII
Sectoral Distribution of Employment (1968-78)
in millions (percentage)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Population[a]	27.08	27.89	28.66	29.78	30.55	31.30	32.14	33.02	33.90	34.27	25.91
Growth Rate	-	(2.99)	(2.76)	(3.91)	(2.59)	(2.45)	(2.68)	(2.74)	(2.67)	(1.09)	(2.74)
Labor Force[b]	8.77	8.92	9.09	9.37	9.43	9.66	9.96	10.89	11.53	11.65	13.32
Growth Rate	-	(1.71)	(1.91)	(3.08)	(0.64)	(2.44)	(3.11)	(9.34)	(5.88)	(1.04)	(5.75)
Armed Forces[c]	0.21	0.23	0.25	0.26	0.27	0.29	0.31	0.33	0.39	0.43	0.53
% of total employed	(2.5)	(2.7)	(2.8)	(2.8)	(2.9)	(3.0)	(3.1)	(3.2)	(3.6)	(3.9)	(4.7)
Agriculture[d]	3.81	3.78	3.72	3.54	3.52	3.50	3.47	3.45	3.40	3.35	3.30
% of total employed	(46.1)	(44.4)	(42.4)	(38.7)	(37.8)	(36.2)	(34.6)	(33.2)	(31.7)	(30.3)	(29.0)
Industry & Mining[d]	2.07	2.19	2.37	2.57	2.69	2.95	3.22	3.46	3.70	3.90	4.05
% of total employed	(25.0)	(25.7)	(27.0)	(28.1)	(28.9)	(32.1)	(33.3)	(34.5)	(34.5)	(35.3)	(35.6)
Services[d]	2.13	2.26	2.39	2.73	2.79	2.87	2.95	3.05	3.15	3.28	3.40
% of total employed	(25.8)	(26.6)	(27.2)	(29.8)	(29.9)	(29.7)	(29.4)	(29.4)	(29.4)	(29.7)	(29.9)
Oil and Gas[d]	0.05	0.05	0.05	0.05	0.05	0.05	0.09	0.09	0.09	0.10	0.10
% of total employed	(0.6)	(0.6)	(0.6)	(0.6)	(0.5)	(0.6)	(0.8)	(0.9)	(0.8)	(0.8)	(0.8)
Total Employed	8.27	8.51	8.78	9.15	9.32	9.66	10.04	10.38	10.73	11.06	11.38
Total Unemployed	0.50	0.41	0.31	0.22	0.11	0.00	-0.08	0.51	0.80	0.60	0.94
% of Labor Force	(5.7)	(4.6)	(3.4)	(2.3)	(1.2)	(0.0)	(-0.8)	(4.7)	(6.9)	(5.2)	(7.6)

Sources: [a]International Monetary Fund mid-year estimates.
[b]Author's estimates.
[c]1968-74, U.S. Arms Control and Disarmament Agency; 1975-77, author's estimates; 1978, RAND Corporation.
[d]1968-71, Bank Markazi Iran; 1972-75, Bank Marhazi Iran and Iran Statistical Center; 1976-78, author's estimates.

C. WAGES

Referring back to Table XVI, per capita GNP can be seen to have risen in real terms from Rls. 25,385 (about $335) in 1968 to Rls. 62,171 (about $821) in 1977. An important question here would be how closely this data reflects the degree to which the real income of the average Iranian laborer has increased. As with employment data, wage data is equally difficult to obtain making it difficult at best to offer a statistically supported analysis of the issue.

In 1971 the minimum daily wage was approximately Rls. 100 (about $1.30), and in many cases actual wages were only equal to or below this level. Up until this time the minimum wage, set by the government, was rarely enforced, particularly in the agricultural sector, and the "backyard" industries such as carpet weaving. Furthermore, prior to 1972, wages barely kept pace with inflation. Data compiled by the International Labor Office from Ministry of Labor figures indicate that in 1971 the average annual wage for a skilled or semi-skilled laborer in the manufacturing field in Tehran (where wages were highest) amounted to approximately Rls. 66,000 (about $871). Annual salaries for industry executives and high level civil servants often ran in excess of Rls. 1,000,000 ($13,200).[39]

However, beginning in 1972 the Iranian workers' wages increased rapidly. As can be seen in Table XVIII the annual index of wages far surpassed other price indices in the decade

Table XVIII

Average Yearly Price Indices (1968-78) (1970=100.0)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Wholesale Prices	94.6	97.2	100.0	106.2	112.3	124.9	146.1	157.7	171.9	201.4	221.8
Home Goods	95.6	97.6	100.0	107.3	112.7	123.3	144.8	158.2	175.2	208.7	229.0
Consumer Prices	95.0	98.4	100.0	104.2	111.0	121.8	139.2	157.0	174.7	222.4	248.4
Wages	---	---	100.0	120.9	146.2	185.6	243.2	[illegible]	478.1	618.2	---
GDP Deflator	---	98.6	100.0	107.4	127.0	149.2	160.5	[illegible]	[illegible]	247.4	---

Source: Computed from figures published by the International Monetary [illegible]

Table XIX

Annual Inflation Rate (1969-78)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Wholesale Prices	2.7	2.9	6.2	5.7	11.2	17.0	7.9	9.0	17.2	10.1
Household Goods	2.1	2.5	7.3	5.0	9.4	17.4	9.3	10.7	19.1	9.7
Consumer Prices	3.6	1.6	4.2	6.5	9.7	14.3	12.8	11.3	27.3	11.7
Wages	---	---	20.9	20.9	26.9	31.0	40.8	39.6	29.3	---
GDP Deflator	---	1.4	7.4	18.2	17.5	7.6	10.3	19.0	17.4	---

	1969-72	1973-78	1969-78
Wholesale Prices	4.4	12.1	9.0
Household Goods	4.2	12.6	9.3
Consumer Prices	3.6	14.5	10.3
Wages	20.9[a]	33.5[b]	29.9[c]
GDP Deflator	9.0[d]	14.4[b]	12.4[e]

[a] 1971-72 [c] 1971-77 [e] 1970-77
[b] 1973-77 [d] 1970-72

Source: Computed from figures published by the International Monetary Fund.

of the 1970s. From a base level of 100.0 in 1970, the wage index rose to 618.2 by 1977 while the consumer price index rose to only 222.4. By 1975 secretaries in Tehran could make $900 per month and truck drivers over $700. This income level approached those of middle to upper level management executives of private industry only four years earlier. Thus it would seem that laborers, at least those in the industrial and service sectors, experienced a significant improvement in their financial position during the 1970s.

D. PRICE STABILITY

In spite of large scale development expenditures by the Iranian government, reasonable price stability was maintained until the oil price boom of 1973. Referring to Table XIX, it can be seen that from 1968 through 1972 wholesale, consumer, and household goods prices averaged only a modest 4.2 per cent annual rate of inflation. Furthermore, given the fact that most of the increases occurred in 1971-72 (the last two years of the Fourth Development Plan), the Fourth Plan's objective of price stability was a reasonable success.

However, with the boom in oil prices, higher rates of investment expenditures brought on by the Fifth Development Plan, and emerging limits on productive capacity, the pressure on internal inflation rapidly increased. Furthermore, rapidly rising wages and higher import prices helped to push Iran's domestic inflation into double digit proportions. By

1974 wholesale and consumer prices reached inflation rates of 17.0 and 14.3 per cent respectively. This was due primarily to the demand pull and cost push pressures of higher wages and salaries. In mid-1975 the government implemented an extensive and strict price control program which served to bring the wholesale price inflation rate down to the more tolerable level of 7.9 per cent. Unfortunately, the price controls had little effect on consumer prices which continued to increase at a rate of 12.8 per cent through 1975 and 11.3 per cent the following year.

Throughout the period 1978 through 1978, the GDP deflator--the most comprehensive measure of price level changes--increased at an average rate of 12.4 per cent per annum. Thus it would seem that even with the harshest of price control regulations the Iranian government could not have high growth rates and low inflationary rates at the same time.

E. INCOME DISTRIBUTION AND ECONOMIC EQUITY

Very little data--and certainly no reliable data--are available on the internal distribution of income and wealth in Iran. Nevertheless this remains one of the most controversial issues surrounding Iran's rapid rate of growth. Though all judgemental observations regarding economic distributional equity must be regarded as indicative and conjectural, several distinct trends in the Iranian income distribution have been clearly identified.

A "poor" Iranian household was defined in 1971, as one with annual expenditures of less than Rls. 60,600 (about $800). At that time approximately 54 per cent of Iran's households fell into the "poor" category. About 42 per cent of the Iranian households were labeled "middle class" and had annual expenditures between Rls. 60,600 and Rls. 238,600 (about $3150). Only 4 per cent of Iran's households were considered "rich" with annual expenditures in excess of Rls. 238,000. Approximately 60 per cent of the upper and middle class families resided in urban areas while only 25 per cent of the lower or "poor" class maintained their domicile in an urban area. Thus, in Iran poverty would seem to be principally the domain of the rural regions. Furthermore as would be expected, there appears to be a notable correlation between income level and education. Among rural dwellers approximately one-third of the upper and middle class family members are illiterate while nearly two-thirds of the lower income class have had little or no education. In urban areas these figures fall to about 15 per cent for the upper and middle class and approximately 40 per cent for the lower class.[41]

According to data compiled from the Annual Survey of Household Expenditures produced by the Bank Markazi Iran, 64.63 per cent of the annual total household expenditures made in urban areas in 1969 were made by the richest 30 per cent of the population. (See Table XX.) However by 1973 this figure had declined to 60.75. This did not however mean that the

Table XX

Decile Distribution of Household Expenditures in Urban Areas (1969-73) (percentages)

Decile (lowest to highest)	1969	1970	1971	1972	1973
1	1.59	1.48	1.34	1.37	1.37
2	2.86	2.62	2.39	2.51	2.40
3	3.96	4.07	3.60	3.36	3.42
4	4.58	4.54	4.32	4.64	4.77
5	5.94	5.60	5.66	5.16	5.08
6	7.96	7.68	6.94	6.98	6.85
7	8.48	8.23	8.57	9.51	9.36
8	11.72	11.48	11.70	11.14	11.19
9	16.05	16.18	16.00	18.38	11.57
10	36.86	38.12	39.48	36.95	37.99

Source: Compiled from Bank Markazi Iran, Annual Survey of Household Expenditures, (Tehran: Bank Markazi Iran, 1969, 1970, 1971, 1972, 1973). Cited in Looney, A Development Strategy for Iran.

"rich" were getting poorer while the "poor" were getting richer. On the contrary, in 1969 the poorest 30 per cent of the urban populace expended only 8.41 per cent of the total household expenditures, and by 1973 this figure too had declined to 7.19 per cent. Thus, while income recipients in all deciles enjoyed absolute gains in money income adjusted for price increases, the highest rate of gain was in the burgeoning middle class. Furthermore, it should be noted that while the upper 30 per cent experienced a 6 per cent decline in their share of total money expenditures between 1969 and 1973, the top decile enjoyed a 3 per cent increase in their share.

During the same 1969-73 period urban incomes grew at a faster rate than did rural incomes. And, as would be expected, workers with advanced educations gained more rapidly than those with lower levels of schooling. Furthermore urban dwellers possessed a higher share of total household expenditures than did the rural populace, and expenditures in the urban areas were more unequally distributed than in the rural regions (see Table XXI). In 1971 the lower 30 per cent of the urban populace expended 10.29 per cent of the household monies while the same 30 per cent of the rural dwellers share was 11.65 per cent. During the same year the upper 30 per cent of those households in urban areas accounted for 60.07 per cent of the expenditures while the same group in the rural areas expended 57.77 per cent.

Table XXI
Decile Distribution of Household Expenditures (1971)
(percentage)

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

Source: Compiled from Statistical Center of Iran, Survey of Household Expenditures, (Tehran: Plan and Budget Organization, 1973). Cited in Looney, A Development Strategy for Iran, p. 48.

In A Development Strategy for Iran Through the 1980s, Robert Looney cites six patterns of Iranian distribution that are worthy of reiteration herein:

> 1. Between 1959 and 1971 the inequality in income distribution in Iran increased. Over the period 1971 to 1973, however, there was a tendency for inequality of household expenditures (and thus income distribution) to stabilize or even decline slightly.
>
> 2. The distribution of income in rural areas is less equal than in urban areas.
>
> 3. There is some evidence that in urban areas the share of middle-income classes has been rising.
>
> 4. Households in the bottom income deciles, particularly in the urban areas, usually have no literate members and have a high rate of unemployment. Furthermore, their households heads are either self-employed (in rural areas) or wage and salary earners (in urban areas).
>
> 5. There are considerable variations in regional expenditure inequality. High income regions, such as Fars and Central Province, show a greater degree of inequality than do poorer regions.
>
> 6. The ratio of urban to rural expenditure, government development expenditures, and the overall educational attainment of households have a significant influence upon income distribution in Iran.[42]

Given the foregoing, it is apparent that Iran's pattern of income distribution during the 1970s is open to various forms of criticism and could certainly play a significant role in creating political instability. These criticisms and the impact on Iran's politics will be discussed in the next chapter.

F. ARMS TRANSFERS AND ECONOMIC PERFORMANCE

Following the oil price increases of 1973, Iranian planners at first perceived physical rather than financial

constraints as the principal barrier to achieving rapid economic development. The revised Fifth Development Plan of March 1975 envisioned the expenditure of some $112 billion on industrial development, social services, and defense with a net revenue surplus of approximately $11 billion upon completion of all projects. However, by 1976, with an 11 per cent drop in the demand for Iranian oil, the government faced both balance-of-payments and fiscal deficits (see Tables XXII and XXIII). Thus the numerous and varied plans for how Iran's monetary reserves were to be invested abroad to produce the income needed to sustain the nation's economic growth after oil exports began to decline were summarily scrapped.[43]

Thus, in addition to the planners' fears, it would seem that Iran in the late 1970s possessed financial as well as physical constraints on growth. The financial constraints were an outgrowth of several planning errors or miscalculations including an overestimation of Iran's future oil reserves, an underestimation of development costs and the effects of inflation, and certainly an underestimation of the rate of growth of the current account budget. The revised Fifth Plan predicted a ratio of approximately 3:1 of capital expenditures over current costs. However by mid-1974 this ratio was actually about 1:1 with current accounts still increasing.[44]

The 1977 oil price increase (10 per cent above the 1976 level) did little to alleviate Iran's fiscal shortfall. Even had Iran been able to make a 15 per cent increase in the price

Table XXII
Government Finance (1969-78)
(billions of Rials: year beginning March 21)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Deficit (-) or Surplus	---	-53.9	-26.1	-57.0	-13.2	140.0	12.6	-37.8	-414.0	-474.8
Revenue	---	188.5	275.3	323.3	491.2	1427.3	1626.8	1895.5	2098.2	1612.0
Expenditure	---	242.4	301.4	380.3	504.4	1287.3	1614.2	1933.3	2512.2	2086.8
Financing, Net Borrowing:										
Domestic	28.1	34.9	11.1	46.3	58.5	70.2	167.7	125.5	474.5	436.1
Foreign	17.0	19.2	15.0	10.7	-45.3	-210.2	-180.4	-87.9	-60.5	38.7

Source: International Monetary Fund

Table XXIII
National Accounts (1969-77)
(billions of Rials: Year beginning March 21)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Exports	133.2	153.7	240.6	308.5	654.9	1486.7	1476.6	1838.2	1815.2
Government Consumption	121.2	141.6	189.3	252.6	325.4	628.3	807.4	1003.6	1073.8
Gross Fixed Capital Formation	156.4	167.3	216.7	287.4	363.3	562.0	1065.6	1477.9	1831.9
Private Consumption	470.7	537.3	566.9	686.6	879.7	1127.8	1316.0	1532.5	2160.8
Less: Imports	139.6	158.4	199.3	266.7	354.7	667.8	1104.5	1245.6	1488.4
GDP	741.9	841.5	1014.3	1268.4	1868.6	3137.0	3561.1	4606.6	5393.3
Less: Net Factor Payments Abroad	33.0	39.6	46.1	36.1	35.9	13.0	42.3	35.1	45.7
GNP	708.0	801.9	968.2	1231.5	1832.7	3124.0	3518.8	4571.5	5347.6

Source: International Monetary Fund.

of oil and export at full capacity, only 53 per cent of the Fifth Plan's economic projects could have been completed, 59 per cent of the social projects, and 89 per cent of the "public affairs" projects.[45] In any case, 12 per cent of the expenditures on social projects were for non-civilian purposes, while domestic security (principally SAVAK) accounted for 27 per cent of the "public affairs" expenditures.[46] However, in light of the Shah's preoccupation with building a strong military,[47] it would seem likely that with the budgetary shortfalls of 1977/78 defense and internal security expenditures, both capital and current, would receive priority funding over the public sector projects. Unfortunately, this is mere supposition as published data on non-civilian capital expenditures under the Fifth Plan is essentially nil.

Leaving aside, for the moment, the question of civilian versus non-civilian investment expenditures, let us review the impact of military expenditures on Iran's economic performance based on that data thus far presented.

1. Economic Growth

The effects of non-civilian expenditures on growth are difficult at best to ascertain. Traditionally, from the government's standpoint, the military is not a profit-making enterprise. As such there is no direct input to growth from the defense sector. There are however numerous indirect inputs in the areas of infrastructure, industry, construction, and finance. The defense and internal security establishment

require bases of operation, roads, housing, office space, industrial manufacturing capability and the like. In Iran's case the lion's share of the construction was undertaken by the public sector. To a certain extent the percentage of government financed construction dedicated to non-civilian projects is immaterial. The construction industry benefitted whether it was building Bank Markazi financed apartments in Tehran or barracks in Bandar Abbas. However, from the standpoint of economic growth Iran certainly had room for improvement in the allocation of resources, particularly in the latter half of the 1970s when its finances became constrained. Perhaps Iran's largest bottleneck was its transportation system. Yet rail and road construction (be to discussed in greater detail later) moved very slowly. The multiplier effect of transportation development would dictate that during a period of reduced financial resources Iran should have reduced defense expenditures and rechanneled the funds into the civilian sector.

According to Julien Bharier, Iran's defense expenditures never dropped below 23 per cent of the general budget throughout the years of the Shah's reign.[48] This lends support to the data presented in Table V. From that table it can however be seen that the cost of actual arms imports averaged somewhat below 8 per cent of all government expenditures during the period 1970-77. This means that at least 15 per cent (usually somewhat more) of the government's total annual expenditures were dedicated to defense purposes, current or

capital, other than the purchase of arms. The current expenditures, principally salaries, were inputs into the general economy while the capital expenditures effected the pattern of growth in the social services sector. How much of the social services sector growth rate of approximately 13 per cent between 1968 and 1977 can be attributed to defense and internal security captital expenditures is unsure--but certainly it was a factor.

2. Employment

As far back as the 1920s the armed forces have been an important source of employment in Iran. During the years 1968-78 the military employed an average of 3.2 per cent of Iran's labor force. In 1978 the military employed in excess of 500,000 personnel representing 4.7 per cent of the labor force and some 17.2 per cent of those employed in non-agricultural sectors. Those serving the military in some indirect capacity must have numbered in the tens if not hundreds of thousands more. The oil boom of 1974 had as much an impact on the relationship between military and civilian employment as it did on other economic areas. Traditionally Iran's military was a relative privileged branch of employment.[49] However, in the 1970s competition with the private sector for skilled technical and managerial personnel put the armed forces at a disadvantage due to lower pay scales.[50] The shortage of technically skilled military personnel may have been a problem for the armed forces (as it was for the

private sector as well) but strictly speaking the Shah's large defense expenditures did provide an ever growing employment boom for the labor force.[51]

3. Wages

According to Fred Halliday the rank and file Iranian solider earned between 500-600 rials per month in 1974, while officer wages ran from 30,000 rials per month for a captain to a high of 100,000 rials per month for a senior general or admiral.[52] In light of the 100 rials per day minimum wage instituted in 1971 these figures, particularly for enlisted rates, would seem rather low. Furthermore, Plan and Budget Organization data indicates a personnel expenditure of Rls. 54.8 billion in 1974[53] or nearly 169,000 rials per soldier, sailor, and airman. Though perhaps not quite equal to private sector wages, it is fair to assume that the military man's pay in Iran was more comparable to that of his civilian counterpart than Halliday would have us believe.

4. Price Stability

Like economic growth, the impact of military expenditures on price stability is difficult to ascertain. Nevertheless one can safely say that the massive government expenditures for Iran's military machine certainly fueled internal inflation by adding to the every increasing money supply, which by 1975 was increasing at 60 per cent per annum.[54] It should be noted that Iran's oil revenues alone did not cause inflation.

At the risk of being tautological, the income had to be spent before anything happened as a result of it.

5. Income Distribution and Economic Equity

It is unlikely that Iran's military provided much relief for the inequities in the nation's pattern of income distribution. To the contrary, the defense establishment fostered the pattern's continuation. Certainly some percentage of those displaced from the agrarian sector found employment in the armed forces though the exact numbers are unknown. Those people that fit into this category were generally poorly educated, from low income families and the position they obtained in the military were befitting of their traditional position in the economic pyramid. They would have remained in the lower economic strata. Furthermore, the armed forces exacerbate the problem of geoeconomic distribution by further concentrating income and government dispersals in urban areas. The majority of Iran's large military facilities are located in or near large cities such as the air bases at Tehran, Hamadan, Shiraz, Isfahan, and Tabriz, or naval bases at Khorramshahr, Kharg Island, and Bandar Abbas.

To briefly summarize, about the most one can say in regard to the impact of arms transfers on Iran's economy is that they had an adverse impact on growth in the latter 1970s. However, it is unclear as to whether or not reduced defense expenditures and increased development expenditures would have improved the rate of growth or merely wasted money on non-cost effective developments.

(1) The widely publicized attention to the aggregate costs of military expenditure has tended to exaggerate the scope of Iran's military buildup. Most critics have ignored the degree to which inflation, both internal and international, affected the costs.[55] The difference between articles and services has not been routinely considered. Furthermore, the aggregate cost approach neglects the spillover benefits of military construction to the economic infrastructure, i.e. roads, ports, airfields, communications, etc.

(2) Iran's rapid military buildup took place coincident with an equally rapid general economic development plan. Not unexpectedly, the economy became overheated with rampant inflation. Unquestionably military expenditures, particularly internal expenditures, served to fuel the inflationary spiral. However it is unclear as to whether or not a reduced defense budget would have had any appreciable cooling effect on the economy.

(3) Iran's booming industrial, service, and defense sectors provided numerous employment opportunities. Unfortunately, Iran's labor force was not equipped with the technical and managerial skills required in many positions. Furthermore, the shortage of skilled personnel became a point of contention between not only the competing civilian and military sectors, but among the competing branches of the armed forces as well.[56]

(4) Infrastructural inadequacies created nightmares for both military and civilian planners. Iran's booming oil income allowed planners in both sectors to rush headlong into infrastructural development. Unfortunately poor coordination in the government accounted for considerable overlap in some areas while others were left untouched. The resultant wastage of economic, labor, and material resources fostered greater animosity among competing sectors and further fueled inflation.

G. MILITARY VERSUS CIVILIAN CAPITAL INVESTMENT

This topic has, in recent years, been the most controversial concern of Iranian military and economic analysts. The question is simple--would Iran (and the Shah) have been better off (read avoid the current strife) had more of the nation's economic resources been devoted to development and/or financial investments abroad and less to military expansion? The answer, if one exists, is somewhat more complex. The issues at hand are twofold. First is the question of opportunity cost and second, the problem of Iran's economic absorptive capacity.

1. The Opportunity Cost of Investment

Let us now return to the Benoit and Frederiksen-Looney studies mentioned in the introduction. In 1973 Emile Benoit published the first major study of the effects of defense expenditures on growth in developing countries.[57] His

findings generally supported the thesis that opportunity costs of defense expenditures were no higher than non-military capital investment expenditures. The forty-four nation study using data for the 1950-65 period concluded that:

> The big surprise of this study was the finding that the evidence does not indicate that defense has had any net adverse effect on growth in developing countries. . . .
>
> The crucial evidence in this matter was the finding that the average 1950-65 defense burdens (defense as a per cent of national product) of 44 developing countries were positively, not inversely, correlated with their growth rates over comparable time periods: i.e., the more they spent on defense, in relation to the size of their economies, the faster they grew--and vice versa. This basic correlation was strong enough so that there was less than one chance in a thousand that it could have occurred by accident.[58]

The more recent work of Frederiksen and Looney lends substantial support to some of Benoit's findings.[59] The study divided thirty-seven countries into four distinct groups characterized by their relative abundance of financial resources. The first group consisted of twenty-four countries (including Iran), and was characterized by a relative abundance of financial resources. Group II consists of nine resource constrained nations. Group III (Burma, Syria, and Iraq) fell somewhere between Groups I and II, and Group IV, consisting solely of Vietnam, was considered a special case due to the number of extreme values. Frederiksen and Looney concluded that

> The most striking result, and one that confirms our original hypothesis, was that the coefficient of the defense variable was positive and statistically significant at the 99 per cent level for Group I but negative and statistically significant at the same level of confidence for Group II. . . .

> Thus, the main finding of this paper is that defense expenditures in countries which are not resource constrained do not compete excessively for scarce resources. As a result of their other positive aspects (education, linkages with industry, etc.), defense expenditures can play an important and positive role in increasing growth. Countries suffering from a lack of foreign exchange and government revenues on the other hand experience the reverse. For these countries, defense expenditures apparently siphon funds away from more productive domestic investments resulting in a detrimental effect on growth.[60]

Neither Benoits's work nor that of Frederiksen and Looney is absolutely conclusive. Nevertheless, these studies and others do provide strong evidence to support the hypothesis that Iran's defense expenditures did not have a negative effect on growth and, as such, had an opportunity cost at least equal to that of other, non-military, capital investments. This of course assumes that Iran was not constrained by financial resources. Given Iran's substantial income from oil and natural gas exports, this assumption is commonly accepted as true. However, beginning in 1976, Iran, according to the Frederiksen-Looney model, became resource constrained. From 1976 onward Iran's entire economy began to slow down. Both revenues and expenditures declined in real terms, but revenues declined more rapidly resulting in fisical deficits that climbed each year. Imports and exports declined, but exports declined faster resulting in shrinking trade surpluses. Foreign exchange earnings decreased, the percentage of exports to GDP declined, import elasticity declined, and the percentage of government revenues spent on civilian consumption increased. All these factors point to constrained resources. As such,

defense expenditures in the latter 1970s did have a negative impact on Iran's economic growth. This in turn would give rise to--if not the perception of relative deprivation, at least--the fear of future deprivation among Iran's economic elite.

2. Iran's Absorptive Capacity

Under the Shah's rule, Iran's capacity to absorb goods and services--defense oriented or otherwise--was rather extensive. The nation possessed a moderately large population, relatively abundant resources other than petroleum, and at least twenty years worth of investment in infrastructure and social overhead capital. Nevertheless, there were problem areas and absorptive capacity was by no means unlimited. Furthermore, the constraints on absorption affected both the military and civilian sectors in the same manner. Indeed, the competition between these sectors and between the various branches of the armed forces proved in itself detrimental to Iran's absorptive ability.[61]

Iran's principal constraints on growth and absorption were the nature of its labor force and the development of its infrastructure. Iran's population, employment levels, and labor force makeup have been discussed early in this paper and only some elaboration is required here. Iran's population at the end of the Fifth Development Plan (1978) was about 36 million. The Plan projected the addition of some 2.1 million new jobs by 1979. However the total domestic labor force was

expected to increase by only 1.4 million, leaving a gap of more than 700,000 vacant jobs.[62] This conflicts with the unemployment data provided in Table XVII which shows Iran as having nearly one million unemployed workers in 1978. In so far as the Fifth Plan investments were well behind schedule in 1977-78, it follows that new job additions were also behind schedule--though the supply of laborers was not. In any case, Iran's labor force problem was not quantitative but qualitative.

As early as mid 1975 shortages of skilled and semi-skilled manpower in most industries and occupations (including the armed forces) were beginning to pose a serious constraint on growth. Both government officials and private company executives complained that numerous projects were being delayed for months or in some cases postponed indefinitely due to shortages of trained personnel--principally middle-level technicians. Requests to fill vacancies with foreign workers were routinely turned down by the government. The Shah feared the potential dangers to Iran's culture and economic growth that would exist coincident with a large expatriot labor force. This fear resulted in the Labor Ministry's decision to exclude all requests for skilled and semi-skilled labor from the nation's foreign recruitment program--a move that served only to compound Iran's labor difficulties.[63]

The Fifth Development Plan called for training of some 200,000 first and second-class technicians along with over

650,000 skilled and semi-skilled laborers.[64] Had the Shah's government survived, it is possible these goals may have been met and Iran's labor problems solved. Unfortunately in 1977-78 when political stability deteriorated and eventually crumbled there existed nearly a million unemployed Iranians who were insufficiently trained and educated to fill the hundreds of thousands of vacant employment positions which existed along side them.

Iran's infrastructure difficulties arise principally from the nation's demographic situation. Most of the population is distributed in the north, northwest, and Tehran districts while the east, southeast, and central desert regions are sparsely populated. On the other hand the principal ports of entry are on the Persian Gulf--Khorramshahr, Bandar-Shapur, Bushehr, and Bandar Abbas. This means that Iran's imports must travel hundreds of miles over poor roads and railroads to reach their ultimate distribution points. By 1973 a 5200 kilometer railway system connecting Tehran with Khorramshahr, Yazd-Kerman, Mashad, Jolfa-Tabriz, and Bandar Shah had been completed. Bandar Abbas, a principal port, was not yet connected to the rail system and there was no direct link between Bandar-Shapur and Tehran. Bottlenecks in Iran's transportation system caused log jams in the nation's ports.

In 1973 Iran's ports had a nominal annual capacity of 3.7 million tons. By 1975 however the ports were attempting to handle an annual load of 8.5 million tons of cargo. By

mid-year some 700,000 tons of cargo were stacked up in Bandar-Shapur alone--a port designed for less than 450,000 cargo tons. At Khorramshahr, the principal port, over 200 ships were waiting to unload their cargoes: ships were having to wait 160 days or more before entering the harbor. At one point more than one million tons of goods were being held in ships' holds awaiting the opportunity to unload. Even as the offloading of goods speeded up, many goods lay around unwarehoused--as much as one million tons in September/October 1975.[65]

One cause of slow cargo movement was that nearly half of all imports were government purchases, and Ministries took sometimes up to six months--and more--to clear them. Even in non-government purchases the bureaucratic red tape often bogged down the process. Robert Graham tells the story of a banker who "spent over four months trying to clear a canoe from customs because the Ministry of War insisted on knowing what form of armament it carried and the nature of its radar system--even though the Commerce Ministry had given prior approval."[66] A second difficulty was a shortage of trucks. The government made an emergency requisition of several thousand trucks and trailers, but soon realized they had gained little as no drivers were available. As recently as 1977 rows of rusting trucks could be seen parked in Bandar Abbas where they had been awaiting drivers for nearly three years.[67]

At the time, Iran's transportation and labor difficulties appeared short-term, not posing a serious obstacle to

intermediate or long-term absorptive capacity. Unfortunately the port congestion caused time loss, damaged goods, and spoilage, all of which further contribute to the discontent already created by unemployment. This discontent with Iran's economy led to discontent with the government and, along with other problems, led to political instability--the subject of the next chapter.

V. ARMS TRANSFERS, THE ECONOMY, AND POLITICAL INSTABILITY

> Gone his way is Mohammad Reza Pahlavi, 446th and last of the Iranian shahs. Gone with him is the Pahlavi dynasty, founded fifty years ago by his father, the last of an uncountable number of dynasties. Gone with the dynasty is the world's oldest monarchy, stretching back for twenty-five centuries.[68]

At 1:08 p.m. Tehran time on January 16, 1979, Mohammad Reza Pahlavi Shananshah Aryamehr, carrying a copy of the Koran, embarked on the imperial Boeing 727 and left Iran--never to return. The political turmoil that preceeded the Shah's departure has been well publicized and documented. Equally well publicized and documented (with greater or lesser degrees of accuracy) are the myriad reasons for Iran's political instability. Political analysts may never fully understand all the intricacies of the "revolution" which led to the Shah's downfall. One can only hope that bit by bit, item by item, some light can be shed on the validity of various criticisms of the Shah's reign. To briefly digress, the purpose of this paper is to determine the impact of American arms transfers to Iran on the political instability of 1977-78. The preceeding three chapters have surveyed U.S. arms sales to Iran, reviewed the nation's economic development plans, and analyzed its economic performance during the last decade of the Shah's reign. It is the purpose of this chapter to combine the foregoing information and--hopefully--provide an accurate assessment of the role played by arms transfers in Iran's recent political crisis.

On September 22, 1979, the Islamic Revolution Plan Office announced its "Principles of the Countries Economic and Social Policies."[69] The announcement provided time frames for implementation of socioeconomic policies in three stages--short, medium, and long-term. For each stage principles to be observed were provided. Interestingly the first principle to be observed for each stage was "national security and the guarantee of rights of individual and personal freedom." One may well question the Shah's intent in the guarantee of individual rights and freedom, but few could argue that he was not interested in his country's national security. Why then do the Shah's critics accuse him of "squandering" billions on arms purchases?[70] The answer lies not in the arms buildup but in the economy. Of the many grievances voiced by the revolutionary followers of Ayatollah Khomeiny, the pattern of Iran's economic development certainly ranks high on the list.

Since Iran's economic woes have been discussed above, it is only necessary here to provide a brief review of the main features:

(1) a real decline in oil revenues beginning in 1977, with a decline in output projected to occur in the mid-1980s and little prospect of finding alternative souces of foreign exchange on a comparable scale.

(2) an inefficient bureaucracy, without a proper planning apparatus, replete with corruption and an inability to implement equitable social and economic reforms.

(3) low productivity in the industrial sector, rendering Iranian manufactured goods non-competitive on international markets, and unending reliance of both public and private industrial sectors on government funding.

(4) a continually growing inequality in incomes, within urban areas and between urban and rural populations.

(5) a real decline in agricultural production necessitating massive food imports and controls.

(6) an ever increasing defense budget necessary to sustain and modernize existing military forces and support the Shah's foreign policies.[71]

(7) a return to balance of payments and fiscal deficits, with little prospect of future revenue surpluses due to overly ambitious development plans and rapidly increasing current expenditures.

By this point the connections between military expenditures and Iran's economic woes should be reasonably clear. Defense spending was not the cause of financial difficulties, it merely added to already existing problems. Actual purchases of foreign arms accounted for only a small portion of the defense budget. The remaining expenditures effected the economy in the same manner as other, non-military capital and current expenditures. Thus, had some portion of Iran's defense expenditures been devoted to non-military projects the net macroeconomic result would have been essentially the same.

In attempting to analyze the causes of Iran's political turmoil one cannot separate defense expenditures from total government spending. Nor can arms purchases be reviewed separately from the total of all defense expenditures. Iran's political difficulties lie not in the economic means but in the ends. The Shah's goals were not at fault; only the means of obtaining those goals can be criticized. Let us now turn to the actual implications of Iran's economic policies and how they contributed to the Shah's downfall.

A. RELATIVE DEPRIVATION AND RISING EXPECTATIONS

Ted Gurr defines "relative deprivation" as

> . . .actors' perceptions of discrepancy between their value expectations and their value capabilities. Value expectations are the goods and conditions of life to which people believe they are rightfully entitled. Value capabilities are the goods and conditions they think they are capable of getting and keeping.

Gurr's hypothesis is that "(t)he potential for collective violence varies strongly with the intensity and scope of relative deprivation among members of a collectivity."[72] The emphasis of the relative deprivation hypothesis is on the perception of deprivation, be it that of the observer or the observed. Relative deprivation is tied to rising expectations through Gurr's hypothesis that "(t)he susceptibility of a group to conversion to rising value expectations through symbolic exposure to a new mode of life varies strongly with the intensity and scope of preexisting relative deprivation in the group."[73] Here lies the root of Iran's political turmoil.

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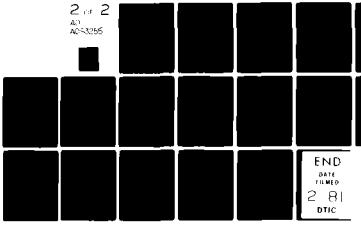

People are generally willing to live under a government that fails to provide uniform political participation so long as the individuals' value expectations and value capabilities are essentially equal. This situation implies an absence of rising expectations. Thus a struggle to gain political participation must be preceded by the perception of relative deprivation. The peasant farmer who has always been a peasant farmer and always expects to be a peasant farmer (because that is his perceived lot in life) will not be a political threat to the ruling regime.

In 1953 Iran's populace perceived the nation as relatively deprived because value capabilities were below value expectations. Iran's oil resources offered rising expectations that were inhibited due to foreign ownership of the Iranian petroleum industry. As such the people gave their support to Prime Minister Mossadegh who boosted value capabilities by nationalizing the oil fields. Unfortunately for Mossadegh the nation's value capabilities remained retarded due to the embargo on Iranian oil established by the western nations. As a result, the populace was generally willing to accept the Shah's return as it meant a probable end to the embargo, an increase in value capabilities, and a decline in perceived relative deprivation. By 1955, as Iran's oil revenues began to increase rapidly, the populace were satisfied they had done well, and the Shah was once again secure in his position.

Much the same situation occurred in 1974. The perception then was that oil industry's rich profits, though not accruing to a foreign power, were likewise not filtering down to the people.[74] Rising oil profits boosted value expectations and created the perception of relative deprivation. The Shah's economic and agricultural policies fostered the continuation of economic inequality, boosted inflation, fostered unemployment, and created a great exodus of rural dwellers to the cities. The peasants observed the results of westernization, modernization, and economic growth but failed to obtain their value expectations. Middle class laborers, technocrats, educators, etc., faired somewhat better, though by late 1977, as inflation continued to spiral upward and economic growth slowed substantially, even their relative capabilities lagged somewhat behind their expectations. As for the economic elite, their hitherto rising expectations suddenly peaked with the economy and started a slow downhill slide. Thus, virtually all economic levels of the population began, by 1975, to experience some lesser or greater degree of economic deprivation.

Gurr cites five indices of deprivation in addition to economic deprivation.[75] The scope of this paper does not allow for a thorough treatment of each--but they were all present:

(1) Political Discrimination--Iran's constitutional monarchy more often than not functioned like an absolute

monarchy as the Shah had the final word on all matters. Furthermore Iran's one party political system (established in 1975) closed most or all political elite positions and some participatory activities to large segments of the population.

(2) Dependence on private foreign capital--according to Gurr, "(t)he greater the proportion of national product that accrues to foreign suppliers of goods and capital, the greater the inferred intensity of deprivation. . . ."[76] Purchase of foreign arms, rising food imports, large numbers of highly paid expatriate laborers, and foreign ownership of numerous firms all served to give the impression that Iran was paying a lot of money for foreign goods and services.

(3) Lack of educational opportunity--as discussed earlier, illiteracy was widespread even in the late 1970s and Iran's educational and technical training programs were woefully underfinanced and overburdened.

(4) Potential separtism--though not directly responsible for the revolution, Iran's Kurdish and Arab population had long been oppressed and favored some form of autonomy.

(5) Religious cleavages--these, according to Gurr, ". . .are a chronic source of deprivation--inducing conflict."[77] A cleaveage did exist between the majority Sunni Muslims in Iran and the minority Arab Shias in the southern

provinces. Though this cleavage has resulted in conflict in the past, it was far from a principal issue in the late 1970s. More fundamental was the Iranian religious hierarchies' perception of a cleavage between the tenets of Islam and growing westernization of Iran. This issue will be discussed in greater detail in following pages.

B. THE BAZAAR AND THE DISENFRANCHISED MASSES

Coincident with the construction boom of 1973-76, tens of thousands of peasants migrated to the cities in search of employment. Although the land reform succeeded in granting ownership of land to the peasants, it does not appear that any perceptible increase in buying power accrued as a result of the peasants' new holdings. The land reform was not accompanied by any government sponsored program to provide economic credit, fertilizer, tractors, improved irrigation, or the like. In other words, though the peasants gained ownership of their land, they lost the benefits provided by their former landlords. Hence, in the long-term, their productivity declined, and, due to the continually rising cost of living, they were forced off the farms and into the urban areas in search of more lucrative jobs.

In the cities the peasants soon found that employment opportunities were not as plentiful as the booming economy had led them to believe. As discussed earlier, Iran's labor

shortages were in the area of skilled and semi-skilled laborers as well as middle level managers and technocrats. The recently arrived peasants were ill equipped to fill the labor gaps and the government's training programs were woefully inadequate. Equally inadequate were the government's social welfare programs, e.g., Iran's Social Security Organization did not come into existence until the Social Security Act of 1975.[78] Having no place to go and nothing to do, the peasants turned to the "Bazaari" (tradesmen and shopkeepers) for help.

Through twenty-five centuries of Persian history all roads led to the bazaar. The bazaar was traditionally the marketplace, financial center, meeting place, and network for information and mobilization of the Persian populace. Furthermore the "bazaari" have been traditional allies of the mullahs and for centuries the two have been mutually dependent. The "bazaari" comprised the larger portion of Iran's burgeoning lower-middle class, and it was to the "bazaari" that the urbanized peasants owed their allegiance--even after they found employment.[79]

C. THE POLITICIZATION OF THE BAZAAR

The tenets of radical Shiaism[80] appealed to a wide cross section of Iran's populace, but no group served to broaden the mullahs power base more than the "bazaari." As noted above the "bazaari" and the mullahs had been rather closely tied for several centuries. The mullahs traditionally took

responsibility for education the children of the "bazaari," who in turn provided the mullahs with financial aid. The "bazaari" were particularly valuable to the mullahs because of their ability to raise a crowd almost instantly. This proved necessary for religious observances and highly useful for political demonstrations.

The "bazaari" have long been organized into "Heyats," informal and loosely institutionalized missions responsible for hundreds of religious gathering places outside the system of mosques. This informal leadership system has provided the "bazaari" with a certain degree of social cohesiveness. Intermarriage, parochial association, and grouping by provincial background have served to further maintain close and effective links within the "bazaari" ranks. Because the bazaar, not only in Tehran but throughout Iran, is so deeply traditional and so profoundly grounded in Islam, it has historically been a focus of opposition to shahs. In 1978-79 the bazaars re-emerged in this role. When Ayatollah Khomeini called on the "bazaari" to strike, they faithfully obeyed, and thus worked powerfully to bring down the Shah.

In late 1974, the Shah, working through Prime Minister Hoveyda, tried to attack inflation by organizing a seemingly well-intentioned anti-profiteering campaign. Approximately 10,000 recruits from all walks of life were unleashed upon the bazaars. Thousands of small merchants and shopkeepers were jailed, fined, or banished to remote towns. This

exercise of power, though probably well meant and justified by the facts, cost the Shah his last support among the "bazaari" and among more prominent businessmen as well. Having no political party and no interest group where they could air their grievances, the "bazaari" took them to the mosques and their traditional allies, the mullahs.[81]

The foregoing is not to say that the "bazaari" and the mullahs have always operated as a unit. Not since the religious riots of 1963 (during which Ayatollah Khomeini was exiled) had Iran's religious elements received such substantial political support from the bazaar. The "bazaari" are, after all, working class people whose lives are radically disrupted by political turmoil. On the other hand, the mullahs, and particularly the more radical Ayatollahs, have long protested the Shah's rule. Nevertheless, Iranian history has shown time and time again that neither the mullahs nor the bazaari alone nor together are capable of overthrowing the nation's leader. Only in league with other social groups--the disenfranchised peasants, the intelligensia, some factions of the military--are the "bazaari" and the mullahs a political force to be reckoned with.

Finally, it should be noted that while specific economic and political issues caused the disaffection of the "bazaari," general mismanagement of Iran's economy was the catalyst that brought together the combination of forces necessary to produce a successful revolution.

D. AYATOLLAH RUHOLLA KHOMEINI

This subchapter, contrary to the title's implication, is not meant to be a biography of Ayatollah Khomeini. The purpose here is to briefly discuss the final link in the revolutionary chain--the leading religious clergy. The linkages between disenfranchised peasants, disaffected "bazaari," and disenchanted mullahs have already been shown. However, a direct connection between the revolutionary forces and the Shah's defense expenditures policy is not yet evident. If such a connection exists, it will be found here, in the attitudes and perceptions of the revolutionary leaders. And, it was Ayatollah Khomeini who eventually came to symbolize the unity of purpose of the revolutionary coalition.

Interestingly, when one reviews the voluminous writings of Khomeini and his myriad interviews of 1978-79, only very rarely does he make mention of the Shah's arms expenditures. On the subject of military issues he much prefers to criticize U.S. "policies of domination with respect to Iran,"[82] and American military advisers in the nation. When Khomeini did discuss Iran's foreign arms purchases, it was more often than not from the viewpoint of their being not only an unnecessary waste of oil revenues, but also a means of economically strengthening the United States.

> The Shah has been giving our oil to the United States to strengthen its government, without any permission or legitimacy. With the revenues, he has been buying American-made arms which are in no way useful to the people of Iran.[83]

Khomeini's reference to the uselessness of American-made arms presents something of an enigma when one considers his concern with Iran's national security, as earlier discussed. This attitude is made further unclear by his instructions to the Iranian army, on the day of the Shah's departure, to prevent Americans from dismantling installations which, he noted, were bought with Iranian money.[84] Six days later, in an interview with the Der Spiegal, Khomeini was asked what would happen to Iran's armed forces and their modern equipment. "Our country will not be a depot for foreign arms we do not need. The strength of our armed forces corresponds to their requirements with regard to maintaining internal law and order and avoiding possible unrest."[85] In a speech to Tehran's religious leaders in late February 1979, Khomeini referred to the Shah's army as a "parasite guided by aliens."[86]

Unfortunately the foregoing statements (some taken out of context) do not paint a clear picture of Ayatollah Khomeini's attitude toward U.S. arms transfers to Iran. Undoubtedly he (and his followers as well) was displeased with the Shah's defense expenditures. However, relative to Khomeini's attitudes toward Iran's stumbling economy, the failures of agrarian reform, the repressive nature of SAVAK, the lack of political participation, and the process of modernization, the Shah's defense policies appear to have been only a minor irritant.

E. INTERVENING VARIABLES

As mentioned in the introduction, in Gurr's model there are four intervening variables between relative deprivation and civil strife. Following is a brief summary of how each of these factors impacted on Iran's road to revolution.

(1) Coercive Potential.

> Comparative studies of civil strife suggest a curvilinear relationship whereby maximum levels of coercion, indexed for example by military participation ratios or ratings of regime repressiveness, are associated with the highest magnitudes of strife. Only very high levels of coercion appear to limit effectively the extent of strife.[87]

The coercive potential of the Shah's military and internal security forces would, in comparison to other nations, generally have to be rated as moderate or medium. His policies were not as liberal as those of the United States or France, but neither were they as severe as repressive regimes in the Soviet Union or the People's Republic of China. Thus, according to the Gurr model, a high magnitude of strife would be expected. Within the realm of coercive potential Gurr places more emphasis on the loyalty of coercive forces than on the coercive force size.[88] For a developing country the size of Iran, the Shah's military was undeniably awesome. However, in the area of loyalty the Shah's troops were found wanting. As the revolution progressed, the religious leaders, under the guidance of Ayatollah Khomeini, appealed to the feelings of brotherhood among the troops, and gained the sympathy of some junior officers and many conscripted soldiers.[89] Hence, in the end, the coercive

potential of the Shah's military machine was insufficient to protect his position.

2. Institutionalization. According to Gurr, there are two facets to this variable:

> One is that the existence of such structures increases men's value opportunities, i.e., their repertory of alternative ways to attain value satisfaction. A complementary function is that of displacement: labor unions, political parties, and a range of associations may provide the discontented with routinized and typically non-violent means for expressing their discontents.[90]

The relationship between institutionalization and civil strife is negative and linear: the greater the institutionalization, the lower the magnitude of strife is likely to be. Iran, in the latter half of the 1970s, possessed a relatively low level of institutionalization. As mentioned earlier, in 1975 the Shah proclaimed the Iranian politican system a "one-party system." He merged the previous two parties into one, which he called Hezb-e Rastakhiz-e Melli (National Resurgance Party), and banned all other parties. He called upon Iranians to join and support the party, and admonished the opposition to cease their political activities or leave the country, or else to face the penalties.[91] This did not leave much room for non-violent expression of discontent. As for labor unions, they are covered by the 1959 Labor Law which specifies that unions may be established if recognized by the Ministry of Labor. The Labor Law forbade the unions to strike or engage in any political activity; though they were allowed to show preferences twoards, or cooperate with, political parties--which after 1975 meant

Pastakhiz, and no other.[92] Thus, in Iran, institutionalization did not serve to moderate civil strife.

3. Facilitation. As with institutionalization, facilitation has two facets: past levels of civil strife and social and structural facilitation. The operational hypotheses are that ". . .the greater the levels of past strife, and of social and structural facilitation, the greater is the magnitude of the strife."[93] Iran's past history of civil strife is well documented. In 1923 the Shah's father, following a military coup, proclaimed himself Prime Minister, and two years later forced the Parliament to proclaim him the new Shah. In 1953 Mossadegh usurped the Shah's authority, but within weeks was overthrown by the military, and the Shah resumed his position. In 1963, Iran was rocked by riots, strikes, and demonstrations brought on by economic conditions and the Shah's heavy-handed rule. As for social and structural facilitation, the Bazaari-Mullah linkage which has already been discussed at length, served to enhance the magnitude of Iran's civil strife.

4. Legitimacy of regime. ". . .the greater is regime legitimacy at a given level of deprivation, the less the magnitude of consequent strife."[94] William Forbis sums up the Shah's legitimacy rather well when he says:

> His Imperial Majesty Mohammad Reza Pahlavi, erstwhile king of kings and late Light of the Aryans, was born a commoner, and his father, who started his working life as a soldier at the age of fifteen, was an even commoner commoner. He got the throne by seizing it. Foreigners made

> fun of this fact; Iranians, knowing that in the long reaches of history many an upstart had toppled many a king, were resigned to accepting the coup. By the same token, anyone wanting to overthrow the Shah seemed to have the authorization of history. And in 1979 that's just what happened, except with the institution of monarchy dead, no one proposed to start a new dynasty.[95]

The Shah's legitimacy may not have enhanced the magnitude of Iran's civil strife, but neither did it serve as a moderating factor.

Thus we have perceived relative deprivation in most of Iran's populace, enhanced by at least three of four possible intervening variables, resulting in civil strife of a relatively high magnitude.

VI. CONCLUSION

As stated in the introduction, the purpose of this work is to analyze the linkages between Iran's recent political turmoil, economic conditions in Iran during the decade preceeding the Shah's fall from power, and American arms transfers to Iran. Admittedly, the bulk of this account has focused on the intermediate link--the economy. However, this is as it should be. For both the Shah's arms acquisition policy and the revolution that ended his reign were responses to economic conditions that existed in Iran. Iran's foreign policy, as laid down by the Shah, dictated what weapons were to be purchased, but oil revenues made the purchases feasible, and indeed made possible the foreign policies followed.

The Shah's fall from power was the end result of a long string of governmental failures in the realm of economics and politics. The revolution could, in fact, have been due to only one seemingly inconsequential factor--the Shah's anti-profiteering campaign in the bazaar. Had this event never occurred, it is feasible that the "bazaari" would have remained acquiescent, the mullahs and Ayatollahs would not have had the public power base they required to back their vocal dissent, and the Shah might still be in power. This theory is admittedly simplistic. Nevertheless it demonstrates the delicate political balance evident in Iran. Furthermore, if

one were to accept this theory, or any similar nature, the question of arms transfer and political stability becomes moot.

Perhaps we will never fully understand the roots of Iran's revolution, but in the search for understanding we should not fall into the trap of tunnel vision--arms transfers from the United States to Iran were not the sole cause of Iran's revolution. We have seen that the Shah's opponents criticized his arms expenditure policy. On the other hand we have also seen that the Shah's policy was not statistically at odds with the defense policies of other developing nations. Furthermore it has been shown that Iran's arms expenditures probably did not have a negative impact on economic growth and, in fact, may have aided growth in a more controlled manner than had the funds been devoted to other, far less cost effective projects.

On the subject of rechannelling Iran's arms expenditures into other economic endeavors, two possible avenues are most often put forth. First it has oft been suggested that the resources should have been channelled into the agricultural sector. As recently as the late 1960s Iran was agriculturally self sufficient. However, since the onset of the industrial revolution Iran has not been agriculturally competitive with the world's major producers. As such, economic trade theory dictates that Iran would be economically better off to channel its resources into endeavors in which the nation has a competitive edge--and import its food. This, intentionally or otherwise

is the policy that the Shah chose. Agricultural, industrial, and monetary independence may be prestigious for a leader but from a purely economic standpoint it is not always the best policy.

The second suggestion often proposed is to channel excess funds into an overseas investment portfolio. General consensus is that Iran's oil output would began an irreversible decline in the mid-1980s. As it was unlikely that the non-oil economic sector would be prepared by that time to take on the nation's economic burden, a portfolio of profitable overseas investments may have been to key to solving Iran's potential future economic distress. The operative word here is "profitable." In today's world of spiralling inflation and widely fluctuating monetary values, what may have been profitable today could become a complete write-off tomorrow. Furthermore, in light of the new regime's belligerance toward the developed western nations, a large overseas investment portfolio could be as equally useless as a rusting pile of high technology military hardware.

The point is this. Although the Shah's arms acquisition policy was ambitious and perhaps overly aggressive, it was not conducted to the detriment of other economic sectors, nor would a reduction in arms expenditures have provided the nation with any appreciable benefits. Simply put, American arms transfers to Iran did not help or hinder the nation's economy or political climate. The revolution that overthrew

the Shah of Iran would, in all probability, have occurred no matter what military improvement program he followed.

Though substantial evidence exists to support this theory, a great deal of further research on the subject is still warranted. Following is a list of questions that future researchers should endeavor to answer, both to aid in analysis of the Iranian case and to help understand the implications of arms transfer policy.

(1) Iran's arms acquisitions leaned heavily toward high-technology major weapons systems. Little funding was devoted to weapons suitable for small-scale ground battles and riot control. Why did the Shah prefer this policy, what were its implications, and what weapons mix would have been more suitable for the nation's needs?

(2) How cost effective was agricultural production in Iran? Which, in the long term, was more important--agricultural independence or agrarian reform (as carried out by the Shah)? Was it possible for Iran to have both peasant land ownership and economically competitive agricultural production? If so, what were the costs, political and economic, involved?

(3) What was the spillover effect of Iran's armed forces on the civilian sector? Was military training valuable in finding civilian employment? How much benefit was gained in the civilian sector by the expansion of military infrastructure?

(4) How practical were Iran's development plans? More specifically, how efficient was Iran's economic planning

organization? How could economic planning in developing countries be improved and how do defense expenditures fit into the development scheme?

A final note. In addition to the foregoing questions, we must never fail to take into account people's perceptions of the situation. Volumes of statistical data proving a point are useless if a nation's people perceive the situation differently. It is hoped that some future researcher will endeavor to record the attitudes and perceptions of Iran's key actors and shed some additional light on the subject of why men rebel.

FOOTNOTES

[1]For a more detailed account of the events of 1973 see Sydney Nettleton Fisher, The Middle East: A History, 3rd. ed., (New York: Alfred A. Knopf, Inc., 1979), pp. 553-558.

[2]See Graham T. Allison, Essence of Decision: Explaining the Cuban Missile Crisis, (Boston: Little, BRown and Company, 1971), for a discussion of three models for why governments act the way they do.

[3]Calculated from International Monetary Fund data.

[4]See P. C. Frederiksen and R. E. Looney, "Defense Expenditures and Economic Growth in Developing Countries," submitted to Economic Development and Cultural Change, January 1980.

[5]Emile Benoit, Defense and Economic Growth in Developing Countries, (Lexington, Mass.: Lexington Books, 1973); see also Emile Benoit, "Growth and Defense in Developing Countries," Economic Development and Cultural Change, No. 26, January 1978, pp. 271-280.

[6]Ted Gurr, "A Causal Model of Civil Strife: A Comparative Analysis Using New Indices," The American Political Science Review, Vol 62, No. 4, December 1968, pp. 1104-1124; see also Ted Gurr, Why Men Rebel, (Princeton, N.J.: Princeton University Press, 1970).

[7]Gurr, "A Causal Model of Civil Strife," p. 1104.

[8]See Ronald G. Sherwin and Edward J. Laurance, "Arms Transfers and Military Capability," International Studies Quarterly, Vol. 23, No. 3, September 1979, pp. 360-389.

[9]National Voice of Iran, 18 December 1978, Persian Commentary quoted in the Foreign Broadcast Service (FBIS) Daily Report for the Middle East and North Africa, Vol. V, No. 2, 3 January 1979, p. R8. [Hereinafter cited as FBIS.]

[10]See U.S. Arms Control and Disarmament Agency (ACDA), World Military Expenditures and Arms Transfers, 1966-75, (Washington, D.C.: ACDA, 1976). [Hereinafter cited as World Military Expenditures and Arms Transfers, 1966-75.]

[11]See Stockholm International Peace Research Institute (SIPRI), World Armaments and Disarmament, SIPRI Yearbook, 1979, (New York: Crane, Russak and Company, Inc., 1979). [Hereinafter cited as SIPRI Yearbook, 1979.]

[12]Theodore H. Moran, "Iranian Defense Expenditures and the Social Crisis," International Security, Winter 1978/79, p. 178.

[13]See for instance, U.S. Congress, U.S. Military Sales to Iran, Staff Study, Subcommittee on Foreign Assistance, Committee of Foreign Relations, Senate, July 1976 [hereafter cited as U.S. Military Sales to Iran]; and U.S. Congress, United States Arms Policies in the Persian Gulf and Red Sea Areas: Past, Present, Future, Staff Report, Committee on International Relations, House of Representatives, December 1977. [Hereafter cited as U.S. Arms Policies in the Persian Gulf.]

[14]An an example of the argument against arms sales to Iran, see Leslie M. Pryor, "Arms and the Shah," Foreign Policy, No. 31, Summer 1978, pp. 56-71; for examples supporting arms sales see Sharim Chubin, "Iran's Security in the 1980s," International Security, Winter 1978/79, pp. 51-80; and U.S. Military Sales to Iran. Additionally, these latter citations provide an objective analysis of the motivations behind the Shah's weapons purchases.

[15]See text of 12 June 1968 communique in Department of State Bulletin, Vol. 59, No. 1514, 1 July 1968, p. 15.

[16]SIPRI Yearbook 1976, p. 257.

[17]U.S. Congress, Proposed Sales of Arms to Iran and Saudi Arabia, Subcommittee on Foreign Assistance, Committee on Foreign Relations, Senate, 1976, p. 54. [Hereinafter cited as Proposed Sales of Arms to Iran.]

[18]U.S. Military Sales to Iran, p. 18. See also SIPRI Yearbook 1976, p. 257.

[19]Moran, "Iranian Defense Expenditures and the Social Crisis," p. 180.

[20]If this Table were to be converted to Rials and compared with the Arms Imports data listed in Table V, a signficant discrepancy would be noted in each year's figures. This serves to demonstrate the difficulty encountered in arms transfers analysis. The data in Table V and VI may or may not be accurate, however it is reasonable to believe that general trends, growth rates, and comparative percentages are true enough to serve as a basis for an honest evaluation of the Iranian military.

[21]See for example Bank Markazi Iran, National Income of Iran, 1338-50 (1959-72), (Mordad, Iran: Bureau of National Accounts, 1974).

[22]Joachim O. Ronall, ed., Iranian-American Economic Survey, 1976, (New York: Manhattan Publishing Co., 1976), pp. 86-87.

[23]Bank Markazi Iran, Annual Report and Balance Sheet, 1353 (1975), (Tehran, Iran: Bank Melli Press, 1975), p. 31.

[24]Jahangir Amuzegar, Iran: An Economic Profile, (Washington, D.C.: The Middle East Institute, 1977), p. 167.

[25]Ibid., p. 177.

[26]As detailed in Table VI, Iran ordered $519 million worth of arms in 1972 and $2.16 billion in 1973, an increase of over 300 per cent. Orders placed in 1974 amounted to $4.37 billion, double the 1973 figure and 8 times the amount ordered just two years previous.

[27]Originally the Consortium consisted of: British Petroleum (40 per cent); Shell (14 per cent); Exxon, Gulf, Socal, and Texaco (8 per cent each); and CFP (6 per cent). In 1955 the five American oil companies gave up one eighth of their holdings to permit nine U.S. "independents" to obtain 5 per cent of the Consortium.

[28]For a more detailed account of the Consortium see Anthony Sampson, The Seven Sisters, (London: Hodder and Stoughton, Cornet Edition, 1976).

[29]Robert E. Looney, A Development Strategy for Iran Through the 1980s, (New York: Praeger Publishers, 1977), p. 14.

[30]See Robert Graham, Iran: The Illusion of Power, (London: Croom Helm Ltd., 1978), pp. 40-43.

[31]See for instance Fred Halliday, Iran: Dictatorship and Development, (New York: Penguin Books, 1979), pp. 147-148, and Sepehr Zabich, Iran's Revolutionary Upheaval, (San Francisco, Calif.: Alchemy Books, 197), pp. 36-37.

[32]For a more extensive treatment of Iran's agricultural woes see Graham, Iran: The Illusion of Power, pp. 38-43 and 115-118. See also Halliday, Iran: Dictatorship and Development, pp. 103-137 for a Marxist/Leninist analysis of Iran's agricultural development and land reform program.

[33]William H. Bartsch, "The Industrial Labor Force of Iran: Problems of Recruitment, Training and Productivity," Middle East Journal, Winter 1971, pp. 15-30.

[34]The Iranian Government did not publish comprehensive statistics on such items as size and composition of the labor force, average working hours for any given job type, pay scales (including benefits), etc. Furthermore government published uneployment figures are generally believed to be highly underestimated. See for instance Robert Looney, Iran at the End of the Century: A Hegelian Forecast, (Lexington, Mass.: Lexington Books, 1977), pp. 85-87.

[35]See William H. Forbis, Fall of the Peacock Throne: The Story of Iran, (New York: Harper and Row, 1980), pp. 117-124.

[36]See Graham, Iran: The Illusion of Power, p. 118.

[37]Amuzegar, Iran: An Economic Profile, p. 251.

[38]See for instance Looney, Iran at the End of the Century, pp. 85-87, and William H. Bartsch, Problems in Employment Creation in Iran, (Geneva: International Labor Office, 1970).

[39]International Labor Office, Employment and Income Policies for Iran, (Geneva: International Labor Office, 1973), p. 81.

[40]Looney, A Development Strategy for Iran, pp. 45-46.

[41]See Bank Markazi Iran, Annual Survey of Household Expenditures, (Tehran: Bank Markazi Iran, 1971).

[42]Looney, A Development Strategy for Iran, pp. 47-48. See also Pesaran, M.H., "Income Distribution and Its Major Determinants in Iran," in Jane Jacqz, ed., Iran: Past, Present and Future--The Persepolis Symposium, (New York: Aspen Institute for Humanistic Studies, 1976), pp. 267-86; and Robert E. Looney, Income Distribution Policies and Economic Growth in Semi-Industrialized Countries: A Comparative Study of Iran, Mexico, Brazil, and South Korea, (New York: Praeger, 1975), especially chapter 7.

[43]For a more detailed discussion of the marginal utility of Iranian oil revenues see Theodore H. Moran, Oil Prices and the Future of OPEC, RFF Research Paper R-8, (Washington, D.C.: Resources for the Future, 1978), pp. 28-41 and 92-103.

[44]Ibid., p. 35.

[45]Ibid., p. 36.

[46]Ibid., p. 36.

[47]See for instance Mohammad Reza Shah Pahlavi, Mission for my Country, (London: Hutchinson, 1974 edition), p. 64.

[48]Julien Bharies, Economic Development in Iran, 1900-1970, (London: Oxford University Press, 1971), p. 67.

[49]See Amin Saikal, The Rise and Fall of the Shah, (Princeton, N.J.: Princeton University Press, 1980) pp. 53-55; and Halliday, Iran: Dictatorship and Development, pp. 71-75.

[50]See Halliday, Iran: Dictatorship and Development, p. 72.

[51]The number of uniformed military personnel in Iran doubled between 1971 and 1978, but it was the construction and services sector where most defense related employment became available.

[52]Halliday, Iran: Dictatorship and Development, p. 72.

[53]Graham, Iran: The Illusion of Power, p. 174.

[54]Ibid., p. 87.

[55]See for example Halliday, Iran: Dictatorship and Development, pp. 94-96; and Pryor, "Arms and the Shah."

[56]See Moran, "Iranian Defense Expenditures and the Social Crisis," pp. 188-191.

[57]Benoit, Defense and Economic Growth in Developing Countries.

[58]Ibid., p. xix.

[59]Frederiksen and Looney, "Defense Expenditures and Economic Growth in Developing Countries."

[60]Ibid., p. 19-20.

[61]See Moran, "Iranian Defense Expenditures and the Social Crisis," p. 190.

[62]Plan and Budget Organization, Iran's Fifth National Development Plan (Revised), (Tehran: Plan Organization, 1975), pp. 34-35.

[63]For a more in depth analysis of Iran's manpower shortages see Looney, A Development Strategy for Iran, pp. 40-45. See also Graham, Iran: The Illusion of Power, pp. 108-109 and 118-119.

[64]F. Aminzodeh, "Human Resource Development: Problems and Prospects," in Jacqz, Iran: Past, Present, and Future, pp. 179-87.

[65]Graham, Iran: The Illusion of Power, p. 87.

[66]Ibid.

[67]Ibid.

[68]Forbis, Fall of the Peacock Throne, p. vii.

[69]Islamic Revolution Plan Office, "Principles of the Countries Economic and Social Policies," Tehran, Kayhan in Persian, 22 September 1979, p. 2.

[70]National Voice of Iran, 18 December 1978, in FBIS, No. 2, 3 January 1979, p. R8.

[71]For discussions on how defense expenditures related to the Shah's foreign policy see Pahlavi, Mission for my Country; Pryor, Arms and the Shah; U.S. Congress, U.S. Military Sales to Iran; and Chubin, "Iran's Security in the 1980s."

[72]Gurr, Why Men Rebel, p. 24.

[73]Ibid., p. 101.

[74]During a speech to the Iranian Council of Ministers on 2 October 1979, Ayatollah Khomeini stated, "I ask the oil workers and the staff to give their support, to work for the country, not to engage in go-slow operations or to stop work. The country is now their own country; the oil is their own now and it is not wasted, for it is being spent in the interest of the country." Cited in FBIS, Vol. V, No. 194, 4 October 1979, p. R9.

[75]Gurr, "A Causal Model of Civil Strife," pp. 1109-1110.

[76]Ibid., p. 1110.

[77]Ibid.

[78]See Amuzegar, Iran: An Economic Profile, pp. 237-243.

[79]For further information on Iran's Bazaars see Amir Taheri, "The Bazaar," Kayhan International (Tehran), 2 October 1978; Nikki Keddie, Hamid Algar, and Gustov Thaiss, in Nikki Keddie, ed., Scholars, Saints and Sufis: Moslem Religious Institutions in the Middle East Since 1500, (Los Angeles: University of California Press, 1972); and Zabih, Iran's Revolutionary Upheaval, Ch. 3.

[80]See "Concepts of Islamic Economy Set Forth," Kayhan (Tehran), in Persian, 22 May 1979, p. 6.

[81]For a reasonably impartial account of the anti-profiteering campaign see Kayhan International (Tehran, 2-4 October 1978); see also Amir, "The Bazaar."

[82]Paul Blata interview with Ayatollah Khomeini: "A Military Coup is Possible," LeMonde (Paris), in French, 10 January 1979, reprinted in FBIS, Vol. V, No. 8, 11 January 1979, p. R8.

[83]Mono as-Said interview with Ayatollah Khomeini, Monday Morning (Beirut), 8-14 January 1979, reprinted in FBIS, Vol. V, No. 11, 16 January 1979, p. R14.

[84]AFP (Paris), 16 January 1979, reprinted in FBIS, Vol. V., No. 12, 17 January 1979, p. R15.

[85]Der Spiegal (Hamburg), 22 January 1979, reprinted in FBIS, Vol. V, No. 16, 23 January 1979, p. R9.

[86]Tehran Domestic News Service, in Persian, 26 February 1979, cited in FBIS, Vol. V., No. 41, 28 February 1979, p. R1.

[87]Gurr, "A Causal Model of Civil Strife," p. 1105.

[88]Ibid.

[89]Saikal, The Rise and Fall of the Shah, p. 195.

[90]Gurr, "A Causal Model of Civil Strife," p. 1105.

[91]Kayhan International (Tehran), 8 March 1975.

[92]See Halliday, Iran: Dictatorship and Development, pp. 197-210.

[93]Gurr, "A Causal Model for Civil Strife," p. 1106.

[94]Ibid.

[95]Forbis, Fall of the Peacock Throne, p. 41.

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