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Monterey, California



## THESIS

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FOREIGN MILITARY SALES (FMS):  
COSTS, BENEFITS, AND A NEW APPROACH

by

Jimmie Roscoe Parker  
and  
Jack Michael Hawxhurst

March 1977

Thesis Advisor: E.J. Laurance

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Foreign Military Sales (FMS):  
Costs, Benefits, and a New Approach

by

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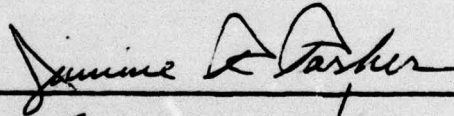
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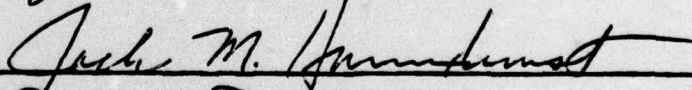
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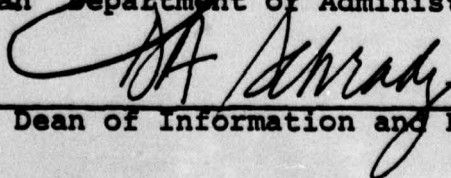
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### ABSTRACT

An evaluation of the costs and benefits of the Foreign Military Sales (FMS) program is presented. Focusing on economic, military, and political factors, a comparative analysis reveals that the FMS program is beneficial to the United States at this time. However, if program controls are not improved the FMS program could become detrimental to national security. The recommended approach to improved program controls is more involvement of the State Department in DOD's Security Assistance Planning, Programming, and Budgeting System (PPBS) and better coordination and analysis of data already available in the system.

TABLE OF CONTENTS

I.	INTRODUCTION -----	8
	A. WHY FMS? -----	8
	B. THE CURRENT SITUATION -----	10
	C. RESEARCH OBJECTIVE -----	14
II.	THE COSTS OF FMS -----	21
	A. INFLUENCE FACTOR -----	21
	B. TECHNOLOGY TRANSFER -----	23
	C. END USE CONTROL -----	26
	D. MANPOWER COSTS -----	29
	E. INVOLVEMENT -----	35
	F. ARMS RACES -----	37
	G. U.S. READINESS -----	41
	1. Material Readiness -----	42
	2. Logistic Support -----	43
	3. Supply Support -----	45
	H. UNIT COST SAVINGS -----	47
	I. DEFENSE INDUSTRY DEPENDENCE -----	52
	J. ARMS SALE POLICY -----	53
III.	THE BENEFITS OF FMS -----	59
	A. ECONOMIC BENEFITS -----	61
	1. Balance of Payments -----	62
	2. Recycling Petrodollars -----	66
	3. Employment -----	67
	4. Lower U.S. Weapons Costs -----	70

5.	Defense Industry Business -----	72
6.	Non-Military Exports -----	73
7.	Taxes -----	76
8.	Access To Oil -----	76
B.	MILITARY BENEFITS -----	77
1.	Friendly Force Capability -----	79
2.	Equipment Standardization -----	80
3.	U.S. Base And Overflight Rights -----	83
4.	U.S. Logistic Support Base -----	84
5.	Maintenance Of U.S. Industrial Base -----	84
C.	FOREIGN POLICY BENEFITS -----	86
1.	Influence -----	87
2.	Developing Friendly Ties -----	88
3.	Regional Stability -----	89
4.	Counter Soviets -----	91
IV.	FMS TODAY -----	94
V.	FMS PLANNING: A COORDINATED APPROACH -----	104
A.	SECURITY ASSISTANCE PPBS -----	104
B.	A NEW APPROACH -----	111
C.	IMPLEMENTATION PROBLEMS -----	118
APPENDIX A:	PAST SAVINGS FISCAL YEARS 1972-1976 -----	122
APPENDIX B:	ESTIMATED FUTURE SAVINGS FISCAL YEARS 1977-1981 -----	123
APPENDIX C:	ESTIMATED TOTAL SAVINGS AND SALES FISCAL YEARS 1972-1981 -----	124
APPENDIX D:	SAVINGS AND SALES IN CURRENT AND CONSTANT DOLLARS FISCAL YEARS 1972-1981 ---	125
BIBLIOGRAPHY	-----	126
INITIAL DISTRIBUTION LIST	-----	131

LIST OF TABLES AND FIGURES

TABLE I.	Top Ten FMS Purchasers in 1975 -----	16
TABLE II.	Projected FMS for 1976 -----	17
TABLE III.	Top Ten Manufacturers in FMS in 1975 -----	20
TABLE IV.	U.S. Balance of Payments 1971-1975 -----	64
TABLE V.	Comparison of FMS and U.S. Commercial Exports in the Persian Gulf -----	75
FIGURE 1.	Changing Focus of Sales -----	18
FIGURE 2.	FMS Growth 1966-1976 -----	19
FIGURE 3.	Comparison of FMS and Oil Payments to the Persian Gulf States -----	68
FIGURE 4.	Cost/Benefit Matrix for FMS -----	97
FIGURE 5.	PPBS: Military Assistance Program (MAP)/FMS Credit -----	105
FIGURE 6.	Processing An Approved FMS Credit Transaction -----	112

## I. INTRODUCTION

### A. WHY FMS?

Debate over the costs and benefits of international arms sales, comparatively quiet since the 1930's, has begun again in the past few years with increasing heat and little light.

The controversy began in the late nineteenth and early twentieth centuries. Individuals, not governments, were the principle arms sellers then. Sir Basil Zaharoff (the super-salesman for Vickers of Britain), Francis Bannerman of the United States and others had amassed large fortunes in private arms sales. Private arms sales were held at least partially responsible for the carnage of World War I and several smaller conflicts. "Merchants of Death" seemed an all too appropriate epithet for such men. Two major investigations - the U.S. Senate Munitions Inquiry (Nye Committee) of 1934-36 and the Royal Commission on the Private Manufacture and Trading of Arms of 1936 confirmed the worst about private arms sales. "Both investigations found a large number of unsavory practices: bribery, collusive bidding, profiteering, violation of arms embargoes, illegal financial transactions, production of poor quality equipment, and even sales to the enemy."<sup>1</sup>

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<sup>1</sup>George Thayer, The War Business. New York: Simon and Schuster, 1969. p. 32.

Public indignation toward the "Merchants of Death" and a belief that governments would be more responsible in the arms sale business led to the Neutrality Acts of 1936, 1937 and 1939. These Acts provided arms export licensing and control authority which lasted until 1950. The Mutual Security Act of 1954 and the Foreign Assistance Act of 1961 followed, with the Foreign Military Sales Act of 1968 providing the authority for current arms sales.

In the Foreign Military Sales Act, as amended, the Congress:

- (1) Declared the ultimate goal of the U.S. to be a world free of the dangers and burdens of armaments with the use of force subordinated to the rule of law;
- (2) Affirmed the increasing cost and complexity of defense equipment and recognized that there continues a need for international defense cooperation to maintain peace and security;
- (3) Established that the United States will facilitate the common defense by entering into international arrangements with friendly countries on projects of cooperative exchange of data, research, development, production, procurement and logistics support to achieve national defense requirements and objectives of mutual concern;
- (4) To this end, authorized sales to friendly countries to equip their forces with due regard to impact on social and economic development and on arms races;
- (5) Declared the sense of the Congress that all such sales be approved only when they are consistent with foreign policy interests of the United States.<sup>2</sup>

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<sup>2</sup>Department of Defense Instruction 5105.38M, Military Assistance and Sales Manual. 1 May 1976. Part III, Chapter B, paragraph 2. p. B-1.

The perceived benefits of arms sales (reasons the U.S. desires to sell), as listed in the Department of Defense Military Assistance and Sales Manual, are:

"Military exports sales support specific foreign policy and security interests of the United States. Such sales have in the past improved internal order and increased the prospects for regional stability, thereby reducing the likelihood of direct U.S. military involvement. Standardization of materiel, doctrine, and training is enhanced among our allies and friends. The U.S. production base is maintained, U.S. employment is increased, research and development costs are reduced, and forward materiel support is facilitated. The U.S. balance of payments is aided and closer relations, cooperation, and partnership with other nations are engendered."<sup>3</sup>

Additionally, nations desire to sell arms because such sales may provide them influence with the recipient nation, access to military elites, and petrodollar recycling opportunities.<sup>4</sup>

#### B. THE CURRENT SITUATION

Until recently, Europe and Asia were the major recipients of U.S. arms sales with more than seventy percent of U.S. arms exports going to nations bordering the Soviet Union, Warsaw Pact countries, and the Peoples Republic of China.

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<sup>3</sup>Ibid.

<sup>4</sup>Michael T. Klare, "The Political Economy of Arms Sales," The Bulletin of the Atomic Scientists. Vol. 32, No. 9. November (23) 1976. pp. 6-F - 8-F.

The biggest customer, as shown by Tables I and II, is not the Middle East - Iran, Saudi Arabia, and Israel. The change in focus of American arms sales to an extremely volatile area of the world has caused as much or more concern in the U.S. as the seemingly uncontrolled growth of arms sales throughout the world. Figures 1 and 2 depict this change of focus and growth of arms sales. The concern and the possible consequences for world peace make the arms transfer programs and policies of the U.S. worthy of close scrutiny and critical analysis.

In 1952 world trade in non-nuclear weapons totaled about \$300 million. In 1974 arms trade totaled \$18 billion, an increase of 6,000 percent. There has also been a dramatic increase in the technical sophistication of the weapons transferred. No longer are they transfers of obsolete or phased-out weapons, but the latest and best first-line items of the transferring countries. The sale of the F-14 fighter aircraft to Iran by the U.S. is an example of this.

Interarms, the biggest private arms company on earth, has annual sales estimated at \$40 million, but governments sell billions worth of arms.<sup>5</sup> Defense industries are becoming more dependent on foreign sales of weapons. Fifty percent of French aerospace output is exported, as is thirty percent of British aerospace output. Ten manufacturers in the U.S.

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<sup>5</sup>"Nations Shall Sell Death Unto Nation," Punch. 26 February 1975. pp. 334-337.

sold a total of more than \$2.3 billion in arms in 1975 (Table III). The United States accounted for forty-six percent of the arms transfers in the world in 1975 and the Soviet Union for thirty percent. France and Britain were battling it out for third place.

President Richard M. Nixon began pushing foreign sales about five years ago without any announcement of a change of policy or any public debate. This emphasis on foreign sales was an outgrowth of the "Nixon Doctrine" announced in Guam on 25 July 1969 and further defined in his State of the Union message to Congress in January 1970. Nixon hoped that advanced weaponry would be a useful bargaining chip in diplomatic negotiations. The weapons were to go to allies or friends the U.S. wanted to influence.

In the spring and summer of 1973, while the nation's attention was focused on the unraveling Watergate scandal, the Administration announced a series of major decisions on Foreign Military Sales (FMS) which indicated a radical shift in U.S. policy toward the underdeveloped "third world." On 26 May it was announced that the U.S. would sell advanced armaments, including F-4 and F-5E aircraft to Kuwait and Saudi Arabia - both of which had provided funds and military support to Arab forces battling Israel. On 5 June, the Secretary of State, William P. Rogers, announced that Nixon would exercise the option under provisions of the FMS Act to waive restrictions on sale of "sophisticated" hardware

to Latin American - F-5E to Argentina, Brazil, Colombia, Venezuela, and Chile. At the end of July it was announced that the Shah of Iran would come to the U.S. to select \$2.5 billion worth of weapons.

These three decisions appeared to nullify policies in effect since World War II. Previous administrations had held that sales to third world countries should be carefully screened to prevent needless expenditures on non-developmental programs, and to prevent local arms races from erupting into warfare.

One hundred members of Congress in a joint letter to the Secretary of State in 1975 said that "the intense competition between the U.S. and western European countries [in arms sales] ... is clearly out of hand."<sup>6</sup> The Senate Foreign Relations Committee has warned that the military sales program is "out of control."<sup>7</sup> Retired Rear Admiral Gene Larocque, Head of the Center for Defense Information, has testified to Congress that "the government is pursuing an uncontrolled, unplanned, hectic effort to sell weapons all over the world to any country that can afford the downpayment." Jimmy Carter, in a speech to the Foreign Policy Association in June 1976, asked, "Can we be both the world's leading champion.

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<sup>6</sup>General Accounting Office, Foreign Military Sales - A Growing Concern. Report ID-76-51. Washington, D.C.: GPO, 1 June 1976. p. 18.

<sup>7</sup>"Anatomy of the Arms Trade," Newsweek. 6 September 1976, p. 40.

of peace and the world's leading supplier of weapons of war? We can not have it both ways." Carter further stated in the second Presidential Candidates Debates in San Francisco on 7 October 1976 that, we should "become the breadbasket of the world instead of the arms merchant of the world ... I believe we can, and we ought to."

#### C. RESEARCH OBJECTIVE

What is our arms sales policy? What are the problems that these sales are creating? Are the benefits of FMS greater than the costs? What, if anything, could be or should be done to better control or strengthen the FMS program?

This study will examine the "costs" (arguments against the foreign military sales program) and the "benefits" (arguments for the program) with the purpose of attempting to answer the questions listed above.

The thesis of this study is that the FMS program is generally beneficial to the nation and has more benefits than costs. Nevertheless, there are some serious problems caused by a large arms sales program and improvements in long-range planning are needed.

Chapter Two will discuss the "costs" of the FMS program and Chapter Three will examine the "benefits." Having presented the major arguments on both sides of the question, Chapter Four will provide the authors' conclusion on the

value of the FMS program and indicate current problem areas that need improvement. Chapter Five will present a new approach for better coordination and analysis of FMS.

The research methodology for this thesis was a review of current literature (studies, articles, theses, Congressional hearings, government publications, and political speeches). The sources used in this thesis are acknowledged in the footnotes, but the conclusions drawn are those of the authors.

TABLE I.

Top Ten FMS Purchasers in 1975

<u>Country</u>	<u>Amount</u>
Iran	\$ 2,567,903,000
Saudi Arabia	\$ 1,373,862,000
Israel	\$ 868,650,000
Belgium	\$ 737,939,000
Netherlands	\$ 686,387,000
Norway	\$ 458,931,000
Kuwait	\$ 370,496,000
Denmark	\$ 367,742,000
Morocco	\$ 294,876,000
Federal Republic of Germany	\$ 291,698,000

Source: GAO Report ID-76-51

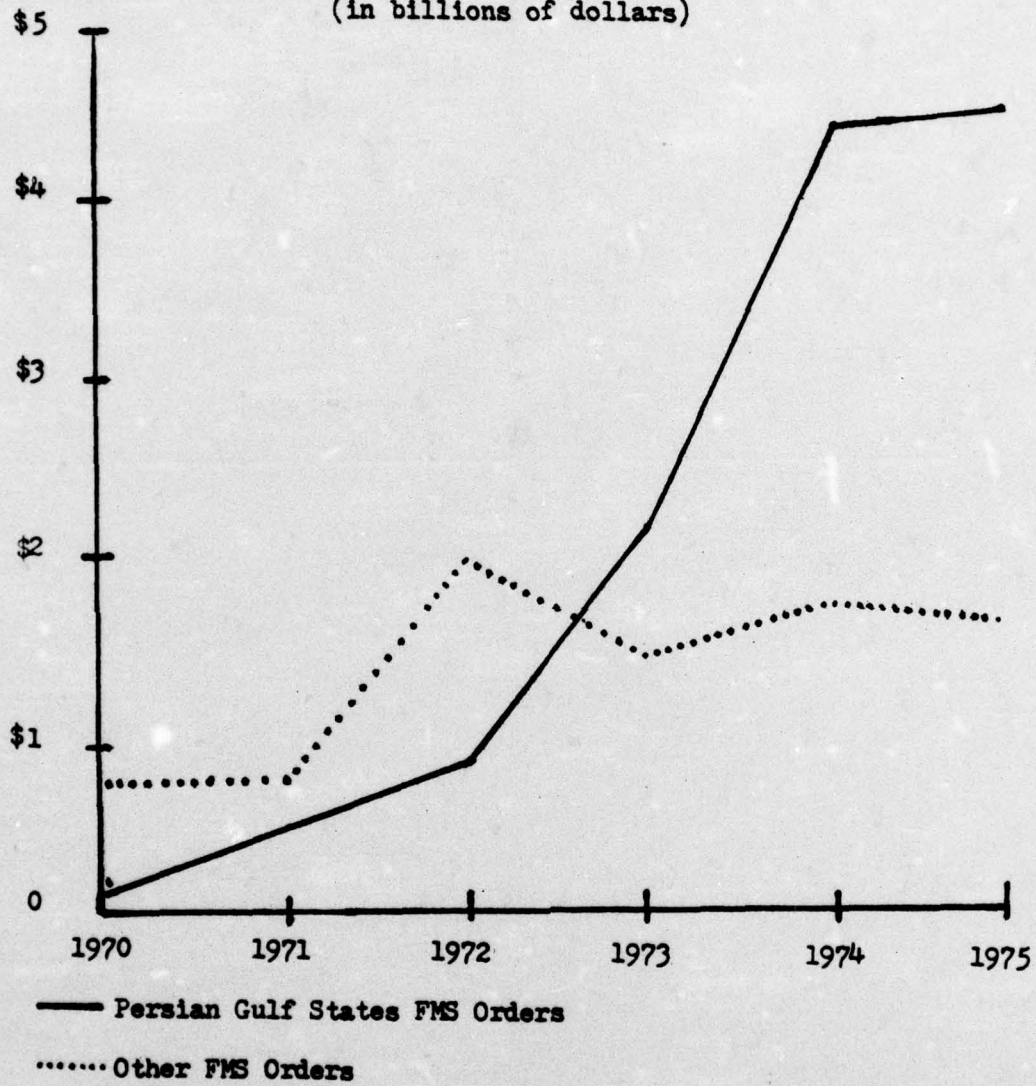
TABLE II.  
Projected FMS for 1976

<u>Country</u>	<u>Amount</u>
Saudi Arabia	\$ 2,502,500,000
Iran	\$ 1,301,300,000
Israel	\$ 919,500,000
Republic of Korea	\$ 625,900,000
Switzerland	\$ 454,700,000
Jordan	\$ 436,100,000
Australia	\$ 411,900,000
Federal Republic of Germany	\$ 194,200,000
Republic of China	\$ 193,000,000
Yemen	\$ 138,500,000
Kuwait	\$ 130,600,000
Morocco	\$ 120,800,000
Ethiopia	\$ 118,800,000
Thailand	\$ 89,000,000
Greece	\$ 83,000,000
Spain	\$ 79,400,000
Egypt	\$ 67,300,000
Canada	\$ 65,800,000
United Kingdom	\$ 46,500,000
Pakistan	\$ 38,600,000

Source: Newsweek, 6 Sep 1976

FIGURE 1

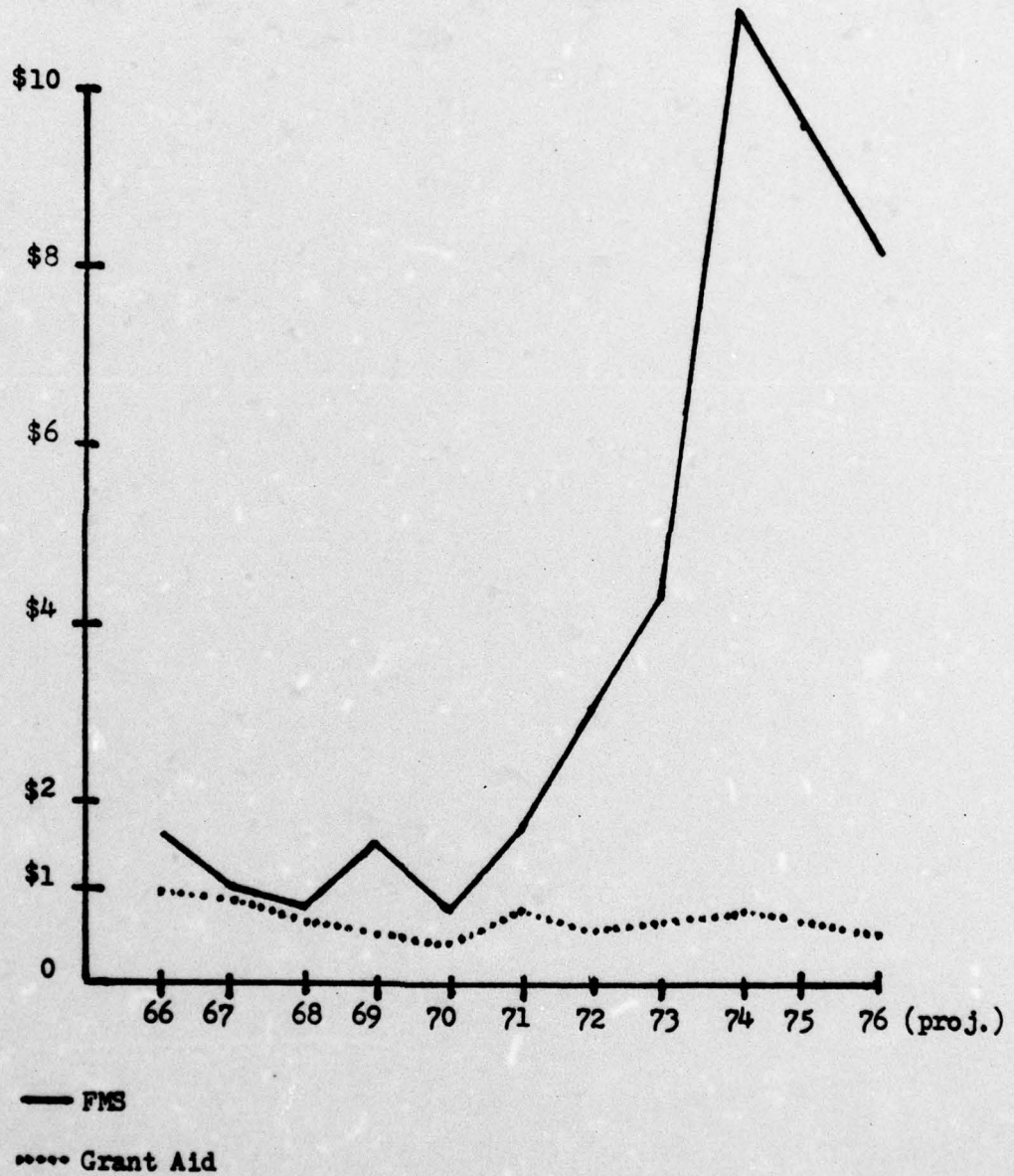
Changing Focus of Sales  
Volume of U.S. FMS Orders  
(in billions of dollars)



Source: House Committee on International Relations. Persian Gulf, 1975.

FIGURE 2

FMS Growth, 1966-1976  
(in billions of dollars)



Source: FMS: A Growing Concern.

TABLE III.

Top Ten Manufacturers in FMS in 1975

<u>Company</u>	<u>Sales</u>
McDonnell-Douglas	\$419,000,000
Grumman Aerospace	\$298,000,000
Northrop Corp.	\$293,000,000
Textron	\$249,000,000
G.E.	\$209,000,000
United Technologies	\$192,000,000
Raytheon	\$172,000,000
Lockheed	\$172,000,000
Hughes Aircraft	\$156,000,000
Boeing Aircraft	\$129,000,000

Source: Newsweek, 6 Sep 1976

## II. THE COSTS OF FMS

The problems or "costs" of the foreign military sales program are lightly dismissed by proponents or even worse, in some cases, not even considered. An often cited "benefit" of the FMS program is the influence factor. The influence of one country over the policy of another through the supply of arms is the ability to alter the policy of the recipient. Typically the exercise of influence involves resolving conflict between two states in ways that are consistent with the preferences of the arms supplier.<sup>8</sup> Selling arms allows the U.S. to influence the internal policies of a country to U.S. advantage or from U.S. point of view for the better, say the proponents of FMS. History seems to show that this proposition does not always hold.

### A. INFLUENCE FACTOR

The fallacy of the influence argument can be shown by some recent experience of the world's arms suppliers. The Soviet Union has little influence with Egypt after a massive arms transfer policy for nearly twenty years. The Russians were unable to deter the destruction of the communist party in Indonesia in 1965 despite the fact that Indonesian forces

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<sup>8</sup> William B. Quandt, Influence Through Arms Supply: The American Experience in the Middle East. Paper presented at Conference on Implications of the Military Build-up in Non-Industrial States. Fletcher School of Law and Diplomacy, 6-8 May 1976. p. 2.

were equipped with Soviet arms. The U.S. supplied arms on a large scale to Turkey and Greece, but the U.S. had little influence with either country in the Cyprus crisis. The U.S. supplied arms to Pakistan but had little impact when it came to bringing a halt to conflict between India and Pakistan. The massive amounts of weapons transferred to the Republic of Korea has not appears to have helped the U.S. influence the Park regime to lessen the repressive treatment of its citizens. The arms sales to Chile appear to have done little to secure the release of the thousands of political prisoners in Chile. If arms sales do gain the seller influence why have the U.S. and the Soviets not been more successful in influencing these events?

Arms sales do not gain one influence because as stated by George Kennan, "the fact is that the sale of arms does not give one very much prestige" and therefore little ability to influence the recipient of those arms.<sup>9</sup> Additionally, arms sales generate many other "costs" that negate any influence value, in the long run, of arms sales. One of the costs which has just recently been recognized as a result of the sale of our latest and best equipment is in the area of technology transfer.

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<sup>9</sup>Fred Kaplan, "Still The Merchants of Death," The Progressive. March 1976, p. 22.

## B. TECHNOLOGY TRANSFER

Technology is as valuable an economic resource as the traditional factors of production of land, labor and capital. Technical progress has contributed to U.S. economic growth through its effect on international trade. A large and important portion of U.S. exports are products of high and rapidly advancing technology. Design and manufacturing know-how impacts a country's strategic capability far more than applied research and development. The receiver of know-how gains a competence which serves as a basis for many subsequent gains. The U.S. has enjoyed and relied on its "qualitative edge" in weapons development as a counterbalance to the numerical advantage enjoyed by potential adversaries. All these advantages enjoyed by the U.S. as a result of its technical superiority may be endangered by the sale of high technology weapons.

There is little data and few studies available to provide policymakers who are considering the sale of high technology items to a foreign government with information on the impact of the sale on U.S. security. One recent report of a two year study effort by a Defense Science Board Task Force was published in February 1976. This Task Force was divided into four subcommittees which studied the high technology of four industries: airframes, aircraft jet engines, instrumentation, and solid state devices. The four subcommittees arrived unanimously and independently at the conclusion

"... that control of design and manufacturing know-how is absolutely vital to the maintenance of U.S. technological superiority."<sup>10</sup> Compared to this, all other considerations of technology transfer are secondary. The Task Force further concluded that to preserve strategic U.S. leadtime, export should be denied if a technology represents a revolutionary advance to the receiving nation, but could be approved if the advance is evolutionary.

The impact of hardware transfer can be partially countered. If the hardware goes to its intended destination for its intended use an assessment can be made of its impact on the U.S. If the hardware does not go to its intended destination or if it is not used as intended then its value can be reduced by shutting off follow-on spare and replacement equipment. Damage to U.S. security tends to be limited because machines have finite utility and a finite useful life. This is not so with technology. The U.S. cannot be assured of the uses to which it is put, cannot recall it, nor is it necessarily a wasting asset.

Technology transfer takes place in many ways and varies in each case. At one end of the continuum is simple visual inspection and at the other is transfer of a complete production facility. Any country with know-how, resources,

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<sup>10</sup>Office of the Director, Defense Research and Evaluation, An Analysis of Export Control of U.S. Technology - A DOD Perspective. Washington, D.C., 4 February 1976.

will and time can acquire any weapon or military capability it chooses. Export controls can retard that attainment of military capabilities which would be detrimental to U.S. security but cannot stop them. Delay then is the measure of success of export controls.

Many sales of military equipment have been accomplished by way of co-production and licensing agreements. These agreements allow a country to produce the equipment entirely within its own borders under license, necessitating complete technology transfer for the item; or to produce a portion of the components of the equipment, thereby gaining partial technology transfer for that item. From 1960 to 1975, co-production or licensing agreements valued at \$9.8 billion were signed. An additional \$2.1 billion worth of agreements are being considered. These agreements include armored personnel carriers, howitzers, tanks, rifles, machine guns, ammunition, helicopters, anti-tank rockets, aircraft and naval vessels.<sup>11</sup>

Technology may not be the only loss with co-production and licensing agreements. These agreements could also result in a loss to U.S. labor assuming the countries involved would buy directly from the U.S. if no co-production or licensing alternative were available.<sup>12</sup>

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<sup>11</sup>FMS - A Growing Concern, op. cit., p. 22.

<sup>12</sup>Ibid.

The DOD has issued guidelines to insure that critical technological know-how and equipments are not transferred. However, there are many areas where the transfer of seemingly non-critical equipments may make possible major advances by other countries. For example, the commercial sale of ball bearing manufacturing equipment might contribute to unexpected rapid development of an adversary's MIRV capability.

The lack of information on the impact of technology transfer on the technological development of a country indicates that more research must be done in this area if the arms sales program is to continue at its present high level. Research needs to be done to assess the consequences of technology transfer through sales on the U.S. economy and the national security. The lack of studies and only recently expressed concern about technology transfer, after the exponential growth of sales, may indicate that sales are made without adequate prior attention or appreciation of the long term effects.

#### C. END USE CONTROL

Once delivered, the U.S. has limited control over FMS material whether it be technology, weapons or information. Co-production and licensing agreements as well as material sold under an FMS case contain clauses which restrict transfer to a third country; however, no formal procedure exists to insure that transfers are not made without prior approval

of the U.S. Government. Military Assistance and Advisory Groups (MAAGs), Missions and intelligence agencies do monitor end item use and disposition but, to a very limited degree. Even the transfer clauses ultimately result merely in a right of first refusal if scrapping is planned. It is likely that equipments being disposed of by demilitarization and scrap sale could reappear as operating equipment in other countries' forces. There is also the possibility, as pointed out by Senator Hubert Humphrey during the 1976 Foreign Assistance Hearings, of substantial weapons transfers as oil-rich countries buy newer equipments and transfer older weapons from their large inventories.<sup>13</sup>

Differences also exist between the restrictions on third-country transfers of defense articles contained in the Foreign Military Sales Act and restrictions on commercial sales controlled by the International Traffic in Arms Regulations (22 C.F.R. 121 et. seq.).<sup>14</sup> Under the FMS Act, the President cannot consent to transfer unless the U.S. Government itself would transfer the defense article to the country. No such restraint exists on granting U.S. approval to a transfer under the Arms Regulations. Additionally, the restrictions on third-country transfers in subsection

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<sup>13</sup>Senate Committee on Foreign Relations, Foreign Assistance Authorization: Arms Sales Issues. Hearings before the Subcommittee on Foreign Assistance. March 26/April 5, 1976.

<sup>14</sup>FMS: A Growing Concern, op. cit., pp. 22-23.

3(a) of the FMS Act are not applicable to sale of U.S. Government defense services, which include the sale of defense information used in furnishing military assistance. The U.S. has no statutory control over transfers of defense articles produced by the purchasing country using such defense information.

Lastly, the possibility of an unfriendly takeover of a large FMS customer, e.g., Iran, by an adversary would result in the U.S. facing its own latest and best weapons (F-14, TOW, DD-963). In addition, the unfriendly country would have the opportunity for thorough examination of these systems. Although not an FMS equipped country, the Republic of Vietnam provides an example where approximately \$5 billion worth of military equipment provided by the U.S. was lost to an unfriendly communist country.

Controlling the offensive use of weapons transferred to other countries has been such a widely recognized failure that it needs little mention. The reader merely need think of the Turkish invasion of Cyprus, the Indo-Pakistani War or the Israeli Three Day War to appreciate the inability to control end use.

The total result of U.S. inability to control end use of arms it supplies to another country is that there is a good chance that those arms will be used against U.S. interests. There is a strong possibility that this may occur with increasing frequency and with more serious consequences

in the future simply because of the many billions of dollars worth of U.S. arms spread around the world.

#### D. MANPOWER COSTS

The process and organization for approving and delivering military sales items has changed little since security assistance programs were first organized at the close of World War II. The original intent was that the existing elements in each armed service which procured weapons and equipment for that service should also be used for foreign arms transfers. Procurements for foreign governments were managed on a case-by-case basis as small side accounts to U.S. procurement.

Although there have been some recent changes, today's foreign military sales are still managed that way. The fragmented and ad hoc pattern continues even though sales have grown to fifteen percent of U.S. procurement, involve considerably more negotiation than the grants of the earlier period, and now deal in highly sophisticated weapon systems.<sup>15</sup> Foreign sales are still largely administered along the three separate but roughly parallel lines in the Army, Navy and Air Force. It is in the Service headquarters that most negotiation with foreign governments and manufacturers occur.

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<sup>15</sup> Congressional Budget Office (Staff Working Paper). Foreign Military Sales and U.S. Weapons Costs. CBO-1106. Wash., D.C., GPO, 5 May 1976. p. 1.

With the rapid growth in foreign sales, the Office of the Secretary of Defense (OSD) has assumed a more active role in overseeing the FMS function. In 1971, the Defense Security Assistance Agency (DSAA) was formed as the primary agent responsible for administering all DOD security assistance programs. The director of the DSAA, a three star military officer, reports directly to the Secretary of Defense. With personnel resources totaling approximately 90 people, DSAA is authorized to direct, supervise, and administer all security assistance plans and programs. While much of the administration is, out of necessity, delegated to the Services, the responsibility remains with DSAA. DSAA does, in fact, become involved in the majority of approved sales cases. It reviews any sales requests from Iran and Saudi Arabia, all requests which involve major weapon systems, all cases with a value over \$5 million, co-production proposals and sales to restricted countries.<sup>16</sup>

The Director of DSAA is also the Deputy Assistant Secretary of Defense for International Security Affairs (DASD/ISA). ISA is the other major OSD organization primarily involved in security assistance management and is referred to in the DOD as the "little State Department." ISA is responsible for forming security policy for sales, assistance and credit programs. As a result of his two

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<sup>16</sup> Department of Defense Instruction (DOD INST) 5105.38 of 11 Aug 1971.

positions, the Director of DSAA is charged with both forming and executing security assistance policy.

Almost every major organization in DOD takes at least some minor role in the sales and assistance function. The expanding portion of DOD personnel involved in this function has led to growing concern over manpower strains. FMS personnel (other than those assigned to MAAGs and Missions) are allocated under the DOD manpower ceiling set each year by Congress. While the DOD tries to recover full costs for the personnel efforts in FMS, the foreign customers' payments for manpower costs do not translate into additional manpower. Over the last five years, the ceiling has been steadily lowered, while at the same time the FMS personnel burden has dramatically increased. Because of the potential for diplomatic incidents due to non-support of an FMS contract, security assistance functions will probably receive the necessary manpower from DOD resources even if they are taken away from areas that support U.S. combat readiness. The DOD has proposed legislation that would remove security assistance manpower requirements from the manpower ceiling, allowing them to fluctuate depending on the amount of reimbursable funds available which would equate to the volume of sales. Until this is approved, FMS manpower requirements will be in competition for manpower resources dedicated to U.S. forces.

In 1975 there were 4,868 man-years expended on administrative support of FMS, perhaps another 1,000 others directly reimbursed from FMS cases, and 3,711 in MAAGs, Missions and

overseas military commands that have security assistance program functions. The MAAG personnel are included because most MAAGs have outlived their usefulness in administering grant assistance and concentrate their efforts mostly on facilitating military sales.<sup>17</sup>

The DOD Acquisition Advisory Group has reported that the FMS program "has been the source of many problems." The military departments allege that OSD management direction has been confused and conflicting, resulting in adverse and destabilizing impact on weapon system acquisition programs. Pentagon project managers have complained that FMS places extraordinary demands on them for a myriad of reasons. Financial problems exist in the FMS programs, such as, current estimates that about \$300 million of old FMS order receivables may be invalid and that the Army has had over-expenditures in excess of \$500 million.<sup>18</sup>

A memorandum dated 23 January 1976 from the Deputy Secretary of Defense, William P. Clements, Jr., to the

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<sup>17</sup>General Accounting Office. Assessment of Overseas Efforts of the U.S. Security Assistance Program. Report ID-76-1. Wash. D.C.: GPO, 31 Oct 1975. pp. I, 23.

In 1974, primary MAAG activities were to maintain channels for dialog with host country military organizations, facilitate U.S. military sales, and provide sources of information so that host countries could obtain technical assistance for material received from U.S. sources. These activities represent a major shift from those of the 1950's and 1960's.

<sup>18</sup>Tad Szulc. "Kickback: Corrupting U.S. Arms Sales." New Republic, 17 Apr 1976. pp. 8-11.

Services stated that FMS had indeed, produced an impact "on cost, schedule, and performance aspects of several major programs involving procurement for U.S. armed forces." Clements had instituted periodic breakfasts at the Pentagon in October 1975 to discuss foreign sales ("FMS Working Breakfast Meetings") but the January memo noted that "I am still concerned that there is not a sufficient appreciation among Defense Department managers for the size and complexities of the FMS program and of the serious impact this program has on many of our ongoing major weapon system acquisition programs." The memo further stated that "approved FMS programs are consistent with and supportive of U.S. foreign policy. We must manage these programs efficiently and at the same time insure that our organization and resources are so structured as to adequately support the management and accomplishment of the Defense Departments major weapon system acquisition programs."<sup>19</sup>

A memo from Admiral F. H. Michaelis, Chief of Naval Material, to Admiral J. L. Holloway, Chief of Naval Operations, reported the views of Secretary Clements as expressed in October and November 1975 at the FMS Breakfasts. Clements said that he had noted that there continues to be the impression among Defense Department personnel that FMS is

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<sup>19</sup> Ibid.

not our mission. He expressed his concern at this attitude, and suggested that DOD is going to be deeply involved in FMS for the next fifteen years. When Admiral Michaelis complained that the Services lacked manpower to execute the FMS mission, Clements replied that the priorities of FMS must make themselves felt and personnel assigned, but these assignments should be made with the full understanding that, if necessary, personnel will have to be "pulled-off lower priority jobs to support the security assistance mission."<sup>20</sup>

Noting that the Deputy Secretary of Defense has said that FMS programs must be managed "efficiently", whereas major weapon system acquisition programs need only be "adequately" supported, one might consider almost any U.S. force support mission to be of lower priority and therefore eligible to have personnel "pulled-off" to support FMS.

An example of either increasing manpower requirements of FMS or of the identification of personnel handling FMS has occurred in USAF headquarters. Within the headquarters, staffs are being reduced each year, sometimes by Congressional action, sometimes by top-level initiatives. At a time when the Air Staff was being reduced by over 200 spaces the Military Assistance and Sales Directorate (an agency of the staff) was receiving an increase of 19 persons (30% increase) which was probably less than it actually required.<sup>21</sup>

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<sup>20</sup>Ibid.

<sup>21</sup>M.T. Smith. U.S. Foreign Military Sales: Its Legal Requirements, Procedures, and Problems. Paper presented to Conference on Implications of the Military Build-Up in Non-Industrial States. Fletcher School of Law and Diplomacy. 6-8 May 1976.

It is clear that FMS program management is a big and growing problem for the DOD as evidenced by the fact that U.S. Navy sales were \$175 million in 1969 and \$3.8 billion in 1974; Army procurement in 1975 was \$1.1 billion for the U.S. Army and \$1.9 billion for FMS; and the Air Force had \$500 million in open FMS cases in 1968 but \$6.2 billion today. What is unclear is whether weapon sales really should be a mission of the Department of Defense and, if so, whether it will take precedence over support of U.S. forces. This is particularly serious at a time when personnel ceilings are declining while FMS personnel requirements are growing.

#### E. INVOLVEMENT

However successful the U.S. arms program has been in other areas it has not accomplished the objective of reducing U.S. military presence in the Persian Gulf area.

In February 1975 there were 2,100 Americans working in Iran under the FMS program.<sup>22</sup> A Senate Foreign Relations Committee report on the Middle East estimated that 50,000 to 60,000 American military technicians, maybe even more, will be needed by 1980 to help maintain and operate the \$10.4 billion worth of arms that Iran has purchased from this country since 1972. Iran, according to the study,

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<sup>22</sup>Michael T. Klare. "Arms for the Shah: Hoist with our own Pahlavi." The Nation. 31 January 1976. pp. 110-114.

cannot go to war without U.S. support "on a day-to-day basis."<sup>23</sup> Deputy Assistant Secretary of Defense Amos Jordan testified to the House Committee on International Relations in July 1975 that in 1975 there were approximately 45,000 U.S. personnel including 25,000 DOD personnel in the Persian Gulf States. He estimated that by 1980 there would be 150,000 including 50,000 Defense Department personnel.<sup>24</sup>

Arms sales constitute a first step toward a U.S. commitment to the government of the purchasing country. Sales of weapons are normally followed by soldiers, sailors and airmen, as well as civilian technicians who are required to train the purchasers of the equipment. These large concentrations of American citizens tend to involve the U.S. deeply in the affairs of the purchasing country. There is a danger that these people could be held hostage to influence U.S. actions or that the U.S. would have to become directly involved in their behalf in case of war.

Grant aid programs also commit the U.S. to the government of the receiving country; however, the difference is that

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<sup>23</sup>U.S. Senate, U.S. Military Sales To Iran, A Staff Report to the Subcommittee on Foreign Assistance of the Committee on Foreign Relations. Washington, D.C., GPO, July 1976, pp. VII-XIV.

<sup>24</sup>House International Relations Committee. The Persian Gulf, 1975: The Continuing Debate on Arms Sales. Hearings before the Special Subcommittee on International Relations. June, July 1975.

aid programs are proposed by the Executive Branch and approved by the Congress. FMS is proposed by the recipient country and approved by the Executive Branch with Congressional review required only if the sale is to be over \$7 million.

As the U.S. increases its investment in a local regime through credits advanced, training personnel deployed and other facets of military support dependency, its stake in the survival of the client state is expanded. There becomes an increasing danger that third world conflicts could precipitate a clash between the great powers. This danger was vividly exemplified in October 1973 when military personnel of both the U.S. and USSR were sent to the edge of the Israeli-Egyptian battlefield to supervise deliveries of advanced armaments.

There could easily be a very serious problem for the U.S. if conflict developed among its client states. As stated by Congressman Les Aspin, "arms sales could easily embroil us in an unwanted conflict, a new Vietnam."<sup>25</sup> Nowhere does this seem more likely than in the Persian Gulf States where we have committed ourselves so heavily in support of Iran and Saudi Arabia.

#### F. ARMS RACES

The apparent willingness of the U.S. to sell arms to almost any country that wants to buy them not only commits

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<sup>25</sup> Les Aspin. "The Arms Sales Threat." The Progressive. 11 June 1975.

it to countries where it may become involved in local conflicts, the sales may also tend to encourage those conflicts. It is difficult to fight a war without weapons. The ready availability of weapons and countries that want to sell them may encourage countries to arm themselves and to use these arms to settle differences that might otherwise be negotiated.

The arms sale dynamic commits the U.S. inexorably to sell more and more arms, whether policy makers wish to or not.<sup>26</sup> When one nation obtains supersonic aircraft or modern tanks, its neighbors and rivals naturally feel a need to obtain equivalent or superior weapons in order to protect their security. This process perpetually threatens to precipitate armed conflict, for when one country feels that it has a temporary advantage in firepower it will be tempted to invade its weaker rival (as, for instance, when India invaded Pakistan in 1971). Conversely, when a nation suspects that pending arms transfers will shift the balance of power in favor of a rival it will consider immediate invasion in order to preclude a future attack by a stronger opponent (as demonstrated by the Israeli attack on Egypt in 1967).<sup>27</sup>

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<sup>26</sup>Fred Kaplan. "Still the Merchants of Death." The Progressive. March, 1976. p. 25.

<sup>27</sup>Michael T. Klare. "The American Empire at Bay; The Political Economy of Arms Sales." Society. September 1974. pp. 41-49.

With almost unlimited funds at their disposal, the Middle Eastern countries are frantically engaged in building up large military machines, while the major industrial nations, with the exception of Japan, all vie with one another to pour arms into the region, and the Soviet Union arms Syria for its purposes. If one looks far enough into the future, it is hard to envision an arms race of such magnitude that will not lead some nation somewhere down the line to use the weapons it has procured.<sup>28</sup>

The basic imperatives that appear to underlie the arms trade are that wars occur with astonishing frequency. In the last thirty years, there have been 119 armed conflicts involving 69 nations and since the U.S. has reduced its role as the world's policeman, regional powers feel the need to protect themselves. The question is whether shipping billions of dollars worth of weapons is the best way to world peace. The U.S. Congress has expressed concern over the potential effects of arms sales on regional arms races which encourage certain countries to place too much emphasis on military considerations at the expense of social-humanitarian concerns, and identification of the U.S. with regimes which appear to adopt repressive practices.<sup>29</sup>

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<sup>28</sup>George W. Ball. "The Looming War in the Middle East and How to Avert It." Atlantic Monthly. January 1975. pp. 6-11.

<sup>29</sup>FMS: A Growing Concern. op. cit.

What is disturbing about American "policy" on arms sales, particularly in the Persian Gulf, is that there seems to be no long-term policy. Little or no thought has been given to the long-term impact these sales may have on the array of military forces in the Persian Gulf ten years from now. Nor has Washington examined the effects of an uncontrolled arms race on the smoldering tensions among Saudi Arabia, Iran and Iraq or the potential for internal conflict within each country.<sup>30</sup> The handling of arms sales on a case-by-case basis leads to little concern for arms balance, regional stability or overall analysis of all factors (military, economic, resources, etc.) either viewed from a global or regional perspective that they may impact. If there were a complete, long-range, in-depth look at military exports from an aggregate standpoint, that is, what the effects of today's sales will be ten years from now, such an analysis might lead to a different military sales policy. Washington now seems to be committed to the arms trade because of a deeply held conviction that if the U.S. does not sell arms to a country that wants them, someone else will. Lieutenant General H. M. Fish, Director of DSAA, said "put bluntly, our friends want to deal with us. But if we refuse, there are others waiting in the wings."<sup>31</sup>

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<sup>30</sup>"The Arms Sales Threat." Op. Cit.

<sup>31</sup>"Anatomy of the Arms Trade." Op. Cit.

While the U.S. does not sell nuclear weapons to foreign countries, it has, according to Admiral Larocque, sold or given away more than 18,000 missiles, ships and aircraft capable of carrying such weapons. "It is now within the capability of almost every nation to develop or obtain nuclear weapons to go with those missiles, ships and aircraft," he warns.<sup>32</sup>

The cumulative impact of increasing arms sales has been to quicken the pace of militarization of underdeveloped areas and help fuel an upwardly spiraling "balance of terror", in certain key areas, particularly the Persian Gulf, that could lead to an unending series of local wars or even a major world war.<sup>33</sup>

#### G. U.S. READINESS

While increasing the likelihood, or at the least, increasing the ability of a country to participate in a war, FMS may also decrease the ability of the U.S. to fight those wars if necessary. In addition to the manpower drain on already strained personnel resources, there has been a reduction of U.S. combat readiness in some areas to accommodate arms transfer programs and there exists possibilities for further degradation in logistic support areas because of FMS.

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<sup>32</sup>Ibid.

<sup>33</sup>"The American Empire at Bay." Op. Cit.

1. Material Readiness

DOD testimony to the Senate Authorization Committee in April 1975 pointed out some adverse impact on U.S. force readiness had occurred as a result of equipment drawdowns to assist friendly foreign governments.<sup>34</sup> The accelerated emergency support to the Republic of Vietnam and Israel adversely affected overall U.S. readiness because: (1) Equipment was taken from active U.S. forces to satisfy foreign requirements, (2) Prepositioned and depot stocks were reduced below desired levels, and (3) Equipment of or destined for reserve forces was diverted or withdrawn and transferred to foreign countries.

General Fish has written that some selected items were withdrawn from reserve and prepositioned NATO war reserves for Israel as a result of the October 1973 War.<sup>35</sup> He admits that these withdrawals had an adverse impact on our short term ability to deploy reinforcements to Europe if the need arose. Fish indicated that this is not our "normal way of doing business" but that in the long term would speed up force modernization.

Actions were taken to alleviate these shortages, but it will be a long time before certain items can be

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<sup>34</sup>FMS: A Growing Concern. pp. 27-29.

<sup>35</sup>H. M. Fish. "FMS", Commanders Digest. Vol. 17, No. 22, 29 May 1976.

replaced including Army main battle tanks and APC's, Air Force F-4 fighter aircraft, air munitions, electronic countermeasure equipment, and Navy A-4 aircraft.

A 19 May 1975, report of the Senate Committee on Armed Services stated that:

"The Committee is concerned about the serious drain on the inventories of U.S. Forces caused by the transfer of major equipments to other nations through the Foreign Military Sales program since these transfers obviously reduce the combat readiness of our forces to some degree and delay planned force modernization."<sup>36</sup>

As a case in point, the U.S. Army estimated that its equipment shortfall from foreign sales would not be made up until the end of Fiscal Year 1978.

Withdrawal of equipment may in some cases speed-up force modernization plans by creating emergency situations where forces are without weapons. It appears, however, that sales of equipment resulting in five year shortfalls takes an unnecessarily large chance with U.S. security.

## 2. Logistic Support

The U.S. is committed, as a matter of policy, to provide logistic support for defense articles furnished to

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<sup>36</sup>U.S. Senate, Committee On Armed Services, Report On Authorizing Appropriations for Fiscal Year 1976 and July-September 1976 Transition Period For Military Procurement, Research and Development, and Active Duty, Selected Reserve, and Civilian Personnel Strengths And For Other Purposes, 94th Congress, First Session, Report No. 94-146, Washington, D.C., GPO, 1975. pp. 160-161.

foreign governments under FMS. The length of this commitment depends on various factors including foreign relations, program plans, contractual agreements, and the Defense Department's ability to continue the support. The range of logistic support and services is extremely broad and may consist of any logistic service mutually agreed upon. The Military Departments are responsible for providing the required support or for assuring support will be available from other sources.

An important issue related to logistic support provided to foreign countries is the direct impact on U.S. forces. There are indications that the number of equipment items for some weapon systems belonging to foreign governments may eventually equal or exceed those in U.S. forces. The DOD could then be obliged to commit a larger share of its resources to support these items, which could reduce both manpower and material resources available to U.S. forces. An example is the 448 A-4 jet aircraft owned by various foreign countries. The U.S. Navy and Marine Corps purchased approximately 2000 A-4 aircraft but are not rapidly retiring them from service.<sup>37</sup> In the very near future foreign air forces will be operating more A-4s than U.S. forces but support, in most cases, will continue to be provided by the U.S. Another example was the A-1 aircraft of

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<sup>37</sup> John W.R. Taylor, Editor, Jane's All The World's Aircraft, 1976-1977, London: Jane's Yearbooks, 1977, pp. 336-337.

the Republic of Vietnam Air Force (VNAF) which were supported by the U.S. logistic system but were not in active service in U.S. forces. Additionally, the sale of equipments not in U.S. force inventories certainly increases future logistical support problems in that resources are consumed in providing one-of-a-kind support to foreign governments.

### 3. Supply Support

The DOD encourages the purchaser of major weapon systems to "buy into" the DOD/Service supply system with a Supply Support Arrangement (SSA) contract.<sup>38</sup> Such an arrangement amounts to the recipient country putting up a certain amount of money for the supply system to buy and manage spare parts for it. The Service uses its expertise in helping the country determine a range and depth of stock level. The country receives the benefits of the U.S. on-going supply system, and volume purchasing power, without all the problems of running the "wholesale" end of the supply system. The SSA allows the country access to DOD supply channels like any U.S. unit. It becomes another "customer", like U.S. customers, whose requisitions and shipments are based on the DOD priority system. If the foreign country has a higher priority requisition than a U.S. unit, then the foreign country's requisition is filled first.

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<sup>38</sup>Military Assistance and Sales Manual. Op. Cit., Pt. III, Chapt. F, para. 3, pp. F1-F4.

In theory, the addition of foreign money to the supply system should allow the Services to increase their stock level in proportion to the potential increase in usage. In practice, the area that gets the most thorough going over during the budgetary process and is most likely to be reduced is the area of spares procurement. Spares procurement is an unexciting area and the effects of budget cuts do not show up immediately. Consequently, the spares program is often underfunded even for U.S. force requirements. Since the foreign government has "bought into" the DOD supply system and pays its bills, it expects service. It expects to receive items when ordered and if it does not, then the parts problem becomes a diplomatic problem since it is a part of a government-to-government agreement.

It is not difficult to foresee shipping critically short items to a foreign military service to prevent or alleviate diplomatic incidents' and thereby further degrading U.S. force readiness capability. There is an additional concern for U.S. force readiness because of degraded logistic support as a result of FMS, that is, creation of shortages by design.

The free access to the DOD supply system afforded to the foreign government by the SSA and the inadvertant mistakes inherent in any large, computerized, impersonal system may make "Murphy's Law"<sup>39</sup> a reality. A requisition

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<sup>39</sup> Murphy's Law. Anything that can go wrong will go wrong, anything that can be done wrong will be done wrong.

for one each will come out 1000, a gross will be ordered when 12 are desired, the next higher assembly, a gun mount, will be delivered when a cotter pin was needed. In non-crisis times, this causes no great problem. The items are returned and no one gets upset. But if the supply system can be emptied by error it certainly can be emptied by design.<sup>40</sup>

It would not be difficult to determine critical high-use items in the supply system. By simply ordering against a high priority requirement, a customer could "corner the market" on high use, low position assets and put a crimp in operational response in any number of common weapon systems used jointly by the U.S. and foreign forces.

#### H. UNIT COST SAVINGS

One frequent rationale given for a large volume of foreign military sales is that sales to foreign governments help reduce the unit cost to U.S. forces and enable the U.S. to get more for its defense dollar. The Congressional Budget Office did a study on "Foreign Military Sales and Weapons Costs" at the request of the Senate and House Budget Committees.<sup>41</sup> The study stated that evaluation of the FMS program in the past had depended chiefly on security and

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<sup>40</sup>U.S. Foreign Military Sales: Its Legal Requirements, Procedures, and Problems. Op. Cit.

<sup>41</sup>FMS and U.S. Weapons Cost. Op. Cit.

foreign policy judgements. Recent debates, however, extended to the economic consequences of foreign sales, particularly their secondary effects in reducing U.S. weapons costs and requirements. The study found that while some individual cases do produce substantial savings against a given weapon's total program costs, such cases are "exceptional." Large savings do not seem to be generally characteristic of FMS and it is difficult to identify consistent savings resulting from reduced requirements on U.S. military resources as a result of FMS' strengthening of recipient states, according to the CBO study.

Certain sales, such as those to NATO allies, may reduce pressure on U.S. resources. Most FMS, however, go to the Middle East where more important policy concerns, such as distribution of U.S. weapon technology or fueling an arms race, complicate and overshadow cost evaluations. For a few selected weapon systems, the savings from foreign sales are substantial, ranging up to fifteen percent of a weapon's procurement costs in a given fiscal year and eight percent of its total research and development costs. These research and development (R&D) cost recoveries appear to be the largest single source of FMS savings.

R&D savings result mostly from sales of recently developed, high technology systems, particularly new fighter aircraft and missiles. Thus, savings are directly tied to the transfer, at cost, of recent and sophisticated U.S. weapon technology. The R&D recovery of cost amounts to a surcharge added to the

purchase price of a weapon system. For a new system these charges are a pro-rate share of the R&D costs based on the share of the total number produced. For example, if the U.S. developed a new fighter aircraft with R&D costs of \$803 million, bought 400 for itself and sold 80 to a foreign government, then the R&D recoupment would be \$160.6 million. This is, in fact, the amount charged to Iran for its purchase of 80 F-14 fighter aircraft from the U.S. Navy.

The question in this sale, as with any sale of high technology systems, is whether it is in the U.S. interest to make this technology available at cost to foreign purchasers. Does the U.S. gain more by holding exclusive control of its weapon technology or by sharing it with selected customers? And is there really a selection process which determines which customer should receive the system, or is it sold to anyone who has the money? As to whether all FMS serve U.S. foreign policy, "if in a given case the answer is no, it seems unlikely that cost savings would be sufficient to serve as a counterbalance," the CBO study comments.

If the weapon system is not newly developed then R&D recoupments are on a percentage basis of the total purchase price of the equipment. Normally this is four percent but can be less with the approval of DSAA.

Another possible cost savings resulting from FMS is in the area of reduced unit production costs. These can amount

to fifteen percent of annual procurement costs. The lowered per unit production cost results from increased volume which FMS orders add to U.S. procurement. Under certain production circumstances, increased volume can mean lower unit costs. These savings can be a result of economies of scale or of increased production experience. The foreign orders may increase a contract order to a volume that can be manufactured more efficiently, or they may provide more production learning and reduce costs for subsequent U.S. purchases. In both cases, the marginal benefits will diminish after a given volume or level of experience has been reached. For most sales, such as ship ammunition, artillery, military equipment, and services for which R&D and other costs have been absorbed (the great majority of FMS), there appears to be little or no unit cost savings resulting from foreign orders. The U.S. Marine Corps, for example, estimates that it has not realized any substantial savings because of sales to foreign governments.<sup>42</sup> The relationship between FMS and increased DOD weapon costs will therefore depend less on how many total sales dollars are earned than upon how many sales of newly developed, high-technology systems are permitted.

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<sup>42</sup>Headquarters, U.S. Marine Corps Letter FDB-76-pab to Secretary of the Navy, Subject: Congressional Budget Office Paper "Foreign Military Sales and U.S. Weapons Costs," of 1 June 1976.

Additionally, production cost reductions do not always represent clear savings. There may be additional costs associated with the foreign order that would offset unit cost savings. The addition of foreign orders can, for example, mean U.S. procurement is delayed. Delayed U.S. purchases can mean additionally inflated budgetary costs, although not necessarily higher real costs. More important, the presumed delay in procurement means that U.S. forces are temporarily denied a needed resource and must expend additional maintenance resources on a system that is to be replaced. There are also other offsetting costs that may decrease unit cost reductions from foreign orders. One of these is production readjustments caused by the foreign order. The U.S. Navy reported a savings of \$60 million in its F-14 program as a result of the foreign purchase of the aircraft; however, costs increased by \$120 million because of production readjustments.<sup>43</sup> This resulted in unit production costs going up rather than down because of FMS.

Twenty-five to thirty percent of foreign military sales are for services such as repair, training, administrative effort, overhauling, construction and supply operations. These sales do not create cost savings and in fact may generate some indirect non-monetary cost by straining limited resources which the Armed Services draw upon for support of their own programs.

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<sup>43</sup>FMS and U.S. Weapons Cost. Op. Cit., pp. 8-10.

## I. DEFENSE INDUSTRY DEPENDENCE

There is an economic dynamic which may occur when large sales of U.S. weapons are made to attain economies of scale when domestic demand is insufficient. When domestic demand is low, U.S. industries look for external sources to maintain their production base. As stated by John C. Bierwirth, Chief Executive Officer of Grumman Aerospace Company, Inc., "Grumman's future breaks on international business, we've got to become less dependent on the U.S. Navy and sell to a great many countries. Then if Congress cuts, others can take up the slack."<sup>44</sup>

The difficulty then arises that U.S. arms manufacturing companies become dependent on fluctuating, unpredictable levels of external demand. If an arms manufacturer's future breaks on international business then it can be reasonably assumed that he will expend every effort to assure that there is opportunity to increase that business or at least attempt to forestall any restrictions on his sales. The unit cost benefits to the DOD and perhaps the very survival of the company can be assured only by maintaining a consistently high export level. Defense industries may feel forced to exert whatever political and economic pressure they can bring to bear to assure continuing high or increasing

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<sup>44</sup>Louis Kraar. "Grumman Still Flies for the Navy, But It Is Selling the World." Fortune. February 1976. p. 79.

arms sales levels with little regard to the long term security interest of the U.S. Even the customer may assist in this as in the case of Jordan threatening to buy air defense missiles from the Soviets when the U.S. hesitated in approving their request for HAWK missiles.

The net result would be tremendous pressure to disregard or make exceptions to arms sale policy to "save" the industry. This pressure might be easy to withstand if the arms sale policy objectives were clear and agreed upon throughout the government. Unfortunately, this does not seem to be the case with U.S. arms sale policy.

#### J. ARMS SALE POLICY

It has been said that if you know the programs then policy can be deduced. With that assumption in mind, the U.S. arms sale policy might be said to be sales and more sales. Yet the Congress has declared that arms sales should "be approved only when they are consistent with the foreign policy interests of the United States."<sup>45</sup> The question is how does one determine that the sale is in the national interest, consistent with foreign policy of the U.S., and that such sales will strengthen the security of the United States and promote world peace?

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<sup>45</sup>Military Assistance and Sales Manual. Op. Cit.,  
p. B-1.

Various statutes and Presidential delegation of authority make the Secretary of State responsible for military exports. Yet there seems to be a lack of State Department sanctioned, well-defined foreign policy objectives to which government officials may refer when contemplating specific military sales to specific countries.<sup>46</sup> There also appears to be no overall plan that addresses where the U.S. is, where it wishes to go, and what should it do to get there.

When Representative Lee Hamilton (Indiana) asked Joseph Sisco of the State Department, "Is there any linkage between arms sales and availability of oil?", Sisco answered, "No."<sup>47</sup> Might it not be in the national interest to link arms sales with oil availability?

Senator Edward Kennedy stated that it would be intolerable for the U.S. to become arms merchants to the world in order to help our balance of payments or even to provide jobs for workers here in this country. Jobs and balance of payments are both vitally important. But they must not dictate our arms sale policy, where we run the risk of starting conflicts that could drag us in, at terrible cost in lives and money. "Its simply a false and dangerous

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<sup>46</sup>U.S. FMS: Its Legal Requirements, Procedures, and Problems. Op. Cit., p. 34.

<sup>47</sup>The Persian Gulf, 1975. Op. Cit., p. 39.

economy to try solving domestic problems with arms sale policy."<sup>48</sup> Yet the Military Assistance and Sales Manual lists aiding the U.S. balance of payments and providing employment as a positive effect of FMS. Are there procedures and guidelines to assist the decision-maker in making choices between jobs and long term security of the U.S. when considering a possible arms sale?

A study of the U.S. Arms Control and Disarmament Agency determined that military spending is growing at a rate of nine percent per year in developing countries, twice the rate of spending increase in the developed countries, and also twice the rate of economic growth in the third world.<sup>49</sup> Has the Congress or the Executive Branch set a limit on amount of sales per year per country or even worldwide?

Mr. Sisco testified to Congress that arms sales policy is not based on any principle of balance or presumed balance between Saudi Arabia and Iran. It is based on the perceived security needs and interest of Saudi Arabia as that country sees its situation in relationship to the threat it sees in the neighboring countries, and likewise, how it perceives its security needs in relation to its geopolitical situation.

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<sup>48</sup>"Should U.S. Limit Arms Sales in Mideast?" U.S. News and World Report, 8 March 1976. pp. 43-44.

<sup>49</sup>Michael T. Klare. "The Pentagon Bleeds the Third World." The Progressive. 25 June 1974. pp. 21-25.

Congressman Hamilton asked, does that mean "...we sell them whatever they want."<sup>50</sup> The approximate \$5 billion in arms sales to Saudi Arabia from 1972 to 1975 make it appear that the U.S. sells them whatever they want. Have long term interests of the U.S. been taken into account or only those of Saudi Arabia?

Senator Hubert Humphrey observed that a 1973 amendment to the FMS Act declared that the government should get out of the arms sales business and encourage more commercial company-to-foreign government sales. Yet, the year after that policy was enacted, government sales reached a new peak - and they continue apace. This policy reversed the trend of more and more government control and involvement in arms sales started by the Neutrality Act of 1936. Subsequent action by the Congress has negated the reversal and has in fact established more control and more Congressional involvement than previously was the case. This rapid change of policy does make one wonder if the Congress felt in 1973 that the foreign policy interests of the U.S. would be better served by commercial companies selling arms to foreign governments. Or, were there other reasons?

The lack of answers to the questions posed above and the confused and contradictory nature of the above issues indicate that U.S. arms sales policy has not developed as

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<sup>50</sup>Persian Gulf, 1975. op. cit., p. 32.

quickly as sales themselves. The arms sale program appears to be an ad hoc response to individual arms requests rather than a well-formulated policy.<sup>51</sup> The change from grant aid to foreign military sales has effectively transferred nearly all authority from the legislative to the executive Branch of government. Customers request arms from the State Department, which determines if it is in the U.S. interest to make the sale and, if so, the Pentagon acts as purchasing agent negotiating a deal with the manufacturer. Sometimes even State is not allowed adequate time for review as in 1972 when President Nixon gave the Shah of Iran virtual carte blanc to buy just about any non-nuclear American weapon he wanted without allowing the analysts time to study the implications.<sup>52</sup>

There appears to be little long range planning in the process of selling arms, only broad policy guidelines that are called arms sale policy, and divergent views on the purpose and long range goal of FMS in relation to overall U.S. foreign policy.

Congressman Pierre DuPont, in a report of a study mission to the Middle East, summed up the arms policy problem as follows. At present, the U.S. lacks a cohesive arms sales

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<sup>51</sup>William H. Anderson. The Impact of Foreign Military Aerospace Sales on the Industrial Base. Master's Thesis. Air War College, Maxwell AFB, Alabama, April 1976. p. 22.

<sup>52</sup>"Anatomy of the Arms Trade." op. cit., p. 40.

policy and considers arms sales on a case-by-case basis. As a result of inadequate procedures for considering an overall sales policy, the sale of U.S. arms has escalated to the point that Gulf States are annually ordering over \$4 billion in arms, or over forty-five percent of annual world wide sales.

U.S. arms sales to the Persian Gulf countries are and should remain, said Congressman DuPont, an instrument of American foreign policy in that region. However, the U.S. must define better the objectives and examine more carefully the impact of its arms sales to the Gulf countries and the risks engendered by those sales.<sup>53</sup>

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<sup>53</sup> Committee on International Relations. Report of a Study Mission on U.S. Arms Sales to the Persian Gulf, 22-31 May 1975. Wash., D.C.: GPO, 19 December 1975.

### III. THE BENEFITS OF FMS

In developing and implementing FMS Policy, the U.S. Government has created in recent years a structured review process that operates within the framework of the Foreign Assistance and Foreign Military Sales Acts. The review procedures vary depending on the type of case. According to the State Department, all major cases must be approved by senior State officials. Within State, cases are reviewed by the Regional Bureaus involved and by the Bureau of Politico-Military Affairs. Very important cases may involve the President or the Secretary of State in making decisions.

According to the State Department, the basic goal in evaluating a military supply relationship with a foreign country is to make the best possible systematic judgement for total U.S. interests, just as other U.S. international political judgements are made. This assessment by the State Department involves the following considerations:<sup>54</sup>

1. Political.

- What role the country plays in its surroundings, what interests it has in common with the United States, and where U.S. interests diverge.
- Whether the transaction will do more to further U.S. objectives on balance than other economic or political measures.

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<sup>54</sup>FMS - A Growing Concern, op. cit., pp. 13-14.

- The position of influence the sales might help to support, including the potential restraint that can be applied in conflict situations.
- Whether a particular sale will set a precedent which could lead to further requests for arms or for similar requests from other countries.
- The current internal stability of the recipient country, its capability to maintain that stability, and its attitude towards human rights.
- The possible adverse impact on U.S. relations with a friendly government of not making the sale.
- The options available to the recipient country. Will a refusal result in the country's turning to other sources of supply? What sources? What will be the political, military, and economic implications of this?

2. Economic.

- Whether the proposed sale is consistent with the recipient country's development goals or with the U.S. Economic Assistance Program, if there is one.
- Whether the sale might strain the country's ability to manage its debt obligation or entail operations and maintenance costs that might make excessive claims on future budgets.
- The economic benefits to the United States from the sale or coproduction of arms, especially to oil-rich states.

### 3. Military.

- The threat the military capability is supposed to counter or deter, U.S. agreement on the nature of the threat, and relation to U.S. security.
- How the proposed transfer affects the regional military balance, regional military tensions, or the military buildup plans of another country.
- Whether the recipient country is capable of absorbing the arms effectively.
- Whether other military interests - for example, U.S. overflight rights or access to facilities - would be supported by the transaction.
- The impact on U.S. force readiness.
- Whether a substantial physical dependence on U.S. sources of supply could enable the United States to better control conflict under some circumstances.

Many of these considerations involve direct benefits which accrue to the United States from Foreign Military Sales. The remainder of this chapter will discuss these economic, military and political benefits in greater detail.

#### A. ECONOMIC BENEFITS

Advocates of the Foreign Military Sales Program have been hesitant to expound on the economic advantages accruing from arms sales for fear of inviting the charge of being "merchants of death." The only economic advantage that defenders of arms sales are usually willing to promote is

the rather general, and politically popular, goal of improving the balance of payments posture. Occasional references are made to additional employment or reduced weapons costs, but rarely is any detail provided.

However, during the past several years there has been a great deal written about this subject including several papers prepared by the Congressional Budget Office. They have attempted to detail through the use of various economic models the entire spectrum of micro and macro economic benefits realized from Foreign Military Sales. While it seems that no one suggests that economic gain should be a primary objective of our Foreign Military Sales Policy, there is a general consensus that the economic impact of arms sales must be a consideration in the decision making process. This is especially true given our current stagnant economy with its high level of unemployment.

1. Balance of Payments

Since October 1971, when the United States foreign trade balance showed a deficit for the first time since 1893, the balance of payments problem has been regarded as a major foreign policy issue.<sup>55</sup> The large military grant aid programs of the past and the stationing of U.S. troops overseas have both contributed significantly to balance of payments deficits. Defense and State Department representatives

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<sup>55</sup>"The Pentagon Bleeds the Third World," op. cit., p. 23.

have become very sensitive to their part in the dilemma, and have engaged in an intensive campaign to expand sales of U.S. military equipment abroad partially as a method of offsetting the balance of payments outflow. These arguments have even found a certain amount of sympathy among concerned lawmakers. Wisconsin Congressman, Les Aspin, in an article highly critical of U.S. arms policies admitted, "...it is undeniable that arms sales relieve America's troubled balance of payments."<sup>56</sup>

A measure of the actual impact of arms sales upon balance of payments is shown in Table IV. Since the figures in the table represent actual cash flow, they do not correspond to previously presented arms sales figures, which are based on contracts signed for future deliveries and payments. That means that sales figures can be expected to climb precipitously as payments are made on large contracts signed in fiscal years 1973, 1974, and 1975. Examination of the table reveals that only in 1971 did military sales prevent a deficit in the balance of goods and services. However, in 1973, 1974, and 1975 military sales accounted for 35%, 83%, and 24%, respectively, of the surplus in the balance of goods and services. Therefore, military sales have played a significant role in maintaining a positive balance of payments position for the U.S.

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<sup>56</sup>"The Arms Sales Threat," op. cit., p. 10.

TABLE IV

U.S. Balance of Payments, 1971-1975  
(in billions of dollars)

<u>ITEM</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
Exports of Goods and Services	66.3	73.5	102.7	144.8	148.4
Merchandise, Excluding Military	42.8	48.8	70.3	98.3	107.1
Military Sales	1.7	1.2	2.4	3.0	3.9
Other Services	8.7	9.6	11.6	17.3	19.2
Investment Income	12.9	13.9	18.6	26.2	18.2
Import of Goods and Services	-65.5	-78.1	-95.8	-144.2	-132.1
Merchandise, Excluding Military	-45.5	-55.7	-69.6	-103.7	-98.2
Military Expenditures	-4.8	-4.7	-4.5	-5.0	-4.8
Other Services	-10.3	-11.6	-12.9	-16.5	-17.0
Investment Income	-4.9	-6.1	-8.8	-16.0	-12.2
Balance on Goods (Merchandise)	-2.7	-6.9	.7	-5.4	8.9
Balance on Goods and Services	.8	-4.6	6.9	3.6	16.3

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

After showing a record surplus of \$11 billion at the end of 1975, the government recently reported that the U.S. imported \$4.1 billion more than it exported during the first ten months of 1976.<sup>57</sup> This increasing deficit would be even greater without the added benefit of weapons exports such as the recent sale of the General Dynamics F-16 to four NATO nations. The planned General Dynamics production schedule is such that the U.S. will be a net exporter of F-16's for the foreseeable future with an estimated net export value of \$1.25 billion through 1983. When estimated third country sales of 425 additional U.S.-produced planes are added to the NATO sales, the net export value of the F-16 program increases to \$4.1 billion.<sup>58</sup>

The question of U.S. balance of payments as it relates to FMS has been analyzed in depth in a recent study by the Congressional Budget Office. Using two computer models of the economy, the 1976 version of the Data Resources Incorporated (DRI) Quarterly Model and the 1975 version of the Wharton Annual and Industry Model, this analysis estimated the impact of a ban on FMS starting in FY 77. The results show that by FY 81 a ban on FMS would result in a decrease in net exports of approximately \$7.5 billion.<sup>59</sup>

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<sup>57</sup> "U.S. Imports Exceed Exports During Initial Ten Months of 1976," Monterey Peninsula Herald, 30 Nov 1976, p. 2.

<sup>58</sup> FMS - A Growing Concern, op. cit., p. 21.

<sup>59</sup> The Effect of Foreign Military Sales on the U.S. Economy, Congressional Budget Office, CBO-1109, 23 July 1976, p. 21.

## 2. Recycling of Petrodollars

Closely related to the favorable impact of FMS on our balance of payments is the fact that U.S. sales of military hardware are a means to recoup some of the billions of U.S. dollars spent on Arab oil without having foreign nations gaining a foothold in our economy by investment and wholesale purchase of American corporations. As a result of increased American purchases of petroleum from the Middle East and the rising price of crude oil, the supply of dollars in Arab hands has grown at a spectacular rate. According to Walter Laquer of the Institute of Contemporary History in London, Middle East profits from oil sales will reach an estimated \$30-\$50 billion by 1980, which at the present rate of growth could accumulate to "\$1,000 billion" by 1990.<sup>60</sup> A Pentagon official has been quoted as remarking that "the biggest long-range problem facing the U.S. in the Middle East is finding a way to get the Arabs to spend their dollars without letting them get control of our economy."<sup>61</sup> A somewhat more cautious assessment of this problem was offered by Under Secretary of State Sisco in 1973:

"The Saudis and other oil rich [Arabian] Peninsula States have begun to accumulate large foreign exchange reserves well beyond their needs. They have now indicated that if [oil] production is to rise beyond their income requirements, they must find productive outlets at home or abroad to invest their surplus revenues. This is a challenge to the consumer countries generally and to our American businessmen specifically."<sup>62</sup>

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<sup>60</sup>"The American Empire at Bay" op. cit., p. 48.

<sup>61</sup>Ibid., p. 48.

<sup>62</sup>Ibid., p. 48.

It appears that the oil producers have found an outlet for their excess revenues as evidenced by the recent dramatic increase in arms sales to the Persian Gulf States. Figure 3 shows a comparison of FMS and U.S. oil payments to the Persian Gulf States. Although a causal relationship can not be concluded from the data in Figure 3, there appears to be a strong correlation in the trend lines for FMS and U.S. oil payments to the Persian Gulf States.

### 3. Employment

The impact of FMS on employment takes on added significance during this era of high employment. President Carter has indicated a desire to reduce the current levels of arms sales; however, concern for an adverse impact on employment may postpone any immediate reduction. Various estimates have been reported on the relationship between FMS and employment. Former Secretary of Defense Schlesinger has estimated that 100 jobs in American industry are sustained for each million dollars in Foreign Military Sales.<sup>63</sup> The Congressional Budget Office has predicted that a ban on FMS starting in FY 77 would result in an unemployment rate .3 percentage points higher in FY 81 than if sales were to continue at the current level between FY 77 - FY 81. Stated in terms of jobs, this would mean approximately 350,000 fewer jobs by FY 81.<sup>64</sup>

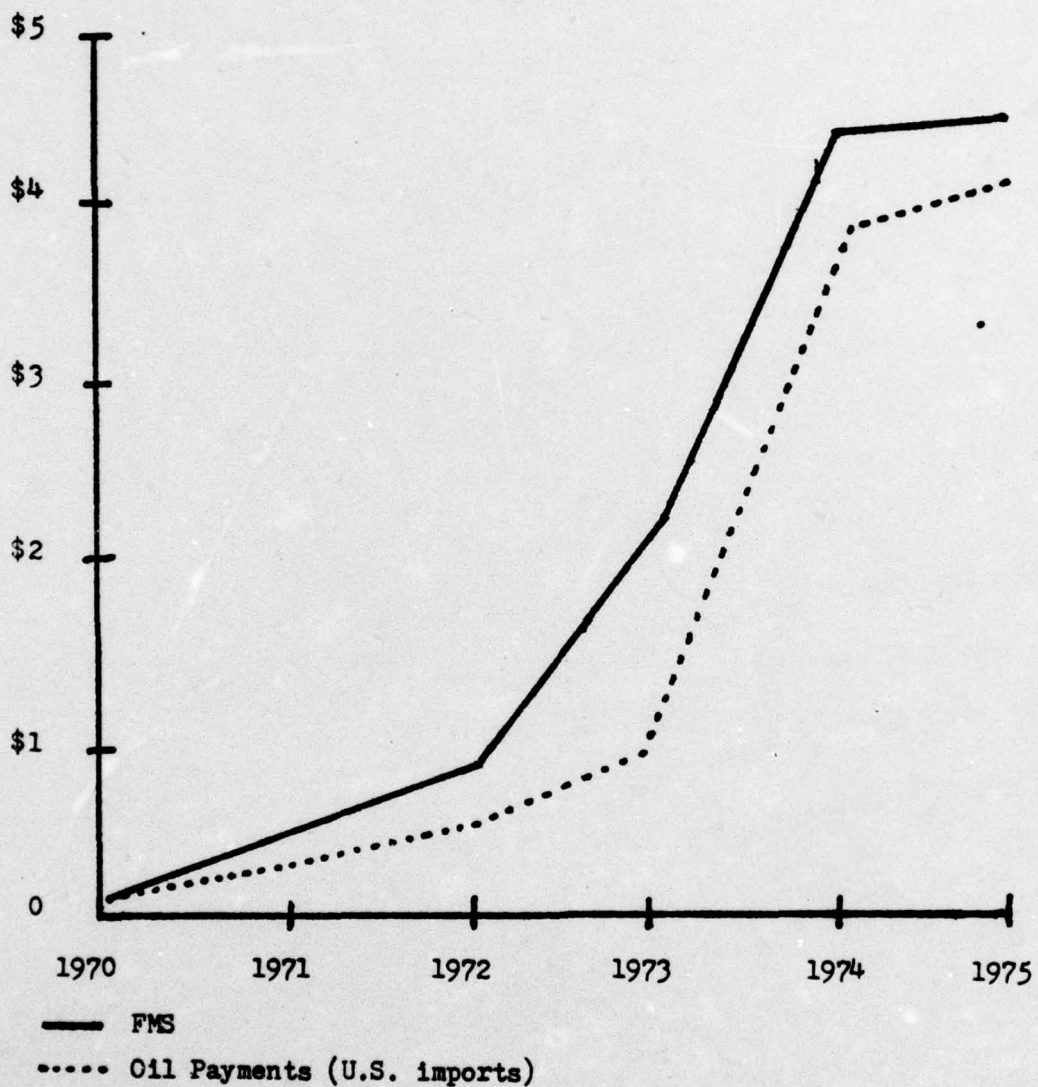
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<sup>63</sup>"U.S. Military Assistance and Sales (U.S. is number one!)," The Defense Monitor, May 1974, p. 3.

<sup>64</sup>The Effect of Foreign Military Sales on the U.S. Economy, op. cit., p. 21.

FIGURE 3

Comparison of FMS and Oil Payments to the Persian Gulf States  
(in billions of dollars)



Source: House Committee on International Relations. Persian Gulf, 1975,  
and Bureau of International Commerce, Department of Commerce.

The Aerospace Industry is particularly sensitive to armament sales. Despite the general recession gripping the country, employment in the Aerospace Industry was 948,000 in June 1974, a drop of only 1,000 from June 1973. Since the U.S. unemployment rate had reached seven percent by mid 1974, if the aerospace industry had not been involved in producing aircraft and missiles for foreign buyers, there is no doubt that a significant drop in employment would have been sustained. For example, Northrop Aircraft employment was up ten percent during 1973, with the F-5E International Fighter accounting for a portion of the increase. The F-5E is produced only for foreign customers. It is not used by American forces. Bell Helicopter employment also rose during 1973, with much of the increase in engineering and technical personnel due to the Iranian Air Force purchases of advanced helicopters.<sup>65</sup> Moreover, recent arms sales will provide a buffer against future economic problems. General Dynamics estimates the total employment increase at the peak of F-16 production in the early 1980's will be about 65,000.<sup>66</sup>

The stimulus provided by FMS to employment in the Aerospace Industry is not limited to that industry alone.

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<sup>65</sup> "Aerospace Employment Outlook Mixed", Aviation Week and Space Technology. 12 November 1973. p. 39.

<sup>66</sup> FMS - A Growing Concern. Op. Cit., p. 22.

Because of the purchases of materials outside the Aerospace sector and its extensive subcontracting network, the industry creates additional employment throughout the economy. The Bureau of Labor Statistics specifies an employment multiplier of 1.73 which means that it generates additional employment in supporting industries at a rate of 73 workers per 100 Aerospace employees.<sup>67</sup>

#### 4. Lower U.S. Weapons Costs

Pentagon officials and defense industry spokesmen have long contended that lower U.S. weapons costs are a valuable by-product of the FMS program; however, only recently, in a report prepared by the Congressional Budget Office, has the relationship between FMS and weapons costs been analyzed in detail. This study estimated that the \$8.2 billion sales program for FY 76 would produce weapons cost savings of \$560 million.<sup>68</sup> For a complete analysis of the cost savings for the 35 major weapon systems included in the CBO Study see Appendices A through D.

Recoveries of Research and Development costs are the most direct and largest source of savings. R & D savings vary according to a weapon's development costs and the length of time the system has been in production. For systems

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<sup>67</sup> Bulletin 1672, Department of Labor, Washington, D.C., 1971, p. 125.

<sup>68</sup> Congressional Budget Office. Budgetary Cost Savings to the Department of Defense Resulting from Foreign Military Sales. CBO-1107. 24 May 1976.

which have been in production for less than five years, R & D charges are prorated, otherwise, a flat percentage of up to 4 percent is added to the purchase price.<sup>69</sup> Since the requested R & D appropriation for each of the services is reduced by projected FMS R & D receipts, R & D savings provide a measure of relief to the taxpayer.

The second major source of weapons cost savings is lowered per unit production costs. These savings result from economies of scale and/or increased production experience: foreign orders may increase a contract order to a volume that can be manufactured more efficiently, or they may provide more production learning and reduce the costs for subsequent U.S. purchases. Accordingly, the greatest savings tend to come from sales which place large foreign orders early in production.

Maintenance of a production base is the third potential source of savings. These savings arise when a break occurs in orders from the U.S. Services for specific weapons and equipment. Once initial orders are satisfied, it may become necessary to close production facilities and to later reopen them when additional orders are required. Both the closing and reopening of production facilities involve expenses which add to U.S. procurement costs. If foreign

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<sup>69</sup>DOD Instruction 2140.1, June 17, 1975.

orders for these items can be interspersed with U.S. orders, production is maintained and the closing and opening costs are saved.

Another advantage of FMS keeping U.S. production lines open has recently come to light. The U.S. has been able to postpone a production decision on the problem plagued STOL Transport (AMST) because production lines for the C-130 aircraft were kept open for FMS orders. This made it possible for the U.S. to purchase additional C-130s without incurring start-up costs while waiting for the AMST to become available.<sup>70</sup>

#### 5. Defense Industry Business

Many defense industries, the aerospace industry in particular, have come to depend on FMS to remain solvent. This dependence arose during the post-Vietnam era when high Vietnam related expenditures began to decline and many U.S. aerospace firms experienced substantial cut-backs in defense contracts. Consequently, these firms were forced to order massive layoffs and it was feared by some companies that this reduction in business would precipitate the shutdown of entire production lines and possibly even corporate bankruptcy. In order to forestall this eventuality, many firms began intensive efforts to establish foreign markets for their military hardware. President Nixon's 1973

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<sup>70</sup>"An Alternative To The AMST", Aviation Week and Space Technology, 12 November 1976, p. 28.

waiver decision lifting the ban on military sales to Latin America and the desire of oil-rich Middle Eastern countries to purchase modern armaments, have opened the new markets sought by the ailing aerospace industry.<sup>71</sup>

Undoubtedly, the most publicized example of a company rescued from financial collapse was Grumman's sale of 80 F-14 aircraft to Iran. Since this sale, the company has regeared itself largely toward the expanding field of U.S. arms exports. The leader of this new tack is John C. Bierwith who says, "Grumman's future breaks on international business ... we've got to become less dependent on the U.S. Navy and sell to a great many countries."<sup>72</sup> In the years ahead, Grumman expects to find as much as a third of its aerospace business abroad, compared with only 6% in 1975.<sup>73</sup>

#### 6. Non-Military Exports

Foreign Military Sales frequently provide the opportunity for increased sales of non-military items to recipient nations. Offices opened in foreign countries to coordinate training in weapons operation and facilities construction serve as convenient locations from which feelers can be sent out to explore possible commercial sales.

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<sup>71</sup>"The Pentagon Bleeds The Third World", Op. Cit., p. 21.

<sup>72</sup>"Grumman Still Flies for the Navy, But It Is Selling to the World", Op. Cit., p. 79.

<sup>73</sup>Ibid., p. 83.

In addition, the high quality of U.S. Weapons serves as an advertisement for U.S. commercial goods and services. Most important, however, Foreign Military Sales promote friendly ties from which good trade relationships can be built.

United States commercial sales in the Persian Gulf Region have been closely tied to arms sales. (See Table V.) Page Communications, a subsidiary of the Northrop Corporation which sold the F-5E to Iran, installed the Iranian National Telephone System.<sup>74</sup> Similar sales coincide with the U.S. capturing 25 percent of the Persian Gulf commercial import market in 1974, amounting to \$3.4 billion.<sup>75</sup> In congressional testimony concerning the relationship between FMS and commercial exports, Claude Akins, the former Ambassador to Saudi Arabia, said "...the suspension of military sales [to Saudi Arabia] would be interpreted as a very unfriendly act and then in their economic programs they would tend to look to countries that were more forthcoming in selling them military equipment."<sup>76</sup>

Latin America is another region where commercial sales have followed FMS. When the U.S. instituted an arms embargo against Latin America, France quickly moved in to

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<sup>74</sup>Gerald Erion and John Harter, United States Foreign Military Sales to Iran: Major Advantages and Disadvantages, Air Force Institute of Technology, August 1975, p. 76.

<sup>75</sup>The Persian Gulf, 1975. Op. Cit., p. 221.

<sup>76</sup>Ibid., p. 223.

TABLE V

FMS and U.S. Commercial Exports in the Persian Gulf  
(in millions of dollars)

<u>Country</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<b>Iran</b>				
FMS Orders	524	2,114	3,917	2,568
U.S. Commercial Exports	559	771	1,734	3,242
<b>Saudi Arabia</b>				
FMS Orders	337	626	2,539	1,374
U.S. Commercial Exports	314	442	835	1,502
<b>Kuwait</b>				
FMS Orders	*	*	30	370
U.S. Commercial Exports	111	119	209	366

\* less than .1

Source: General Accounting Office and Bureau of International Commerce, Department of Commerce.

fill the vacuum. Shortly thereafter, as an outgrowth of military sales, France acquired commercial business in both Argentina and Brazil. The Argentine deal was for an unreported value of communications equipment. The Brazilian order called for a \$60 million air traffic control system.<sup>77</sup>

#### 7. Taxes

The sale of our products to a foreign purchaser generates a significant indirect flow of funds to the United States Treasury. The Wharton Annual Econometric Model indicates that approximately 65 percent of the value of equipment produced in the U.S. for sale to foreign customers eventually flows into the U.S. Treasury in the form of tax receipts.<sup>78</sup> This revenue comes from the 48 percent tax applied to corporate profits of companies engaged in foreign sales (less taxes paid to foreign governments) and personal income taxes paid by stockholders and industrial workers.

#### 8. Access to Oil

Denial or curtailment of the access to oil in the Persian Gulf represents a threat to the security and economic well-being of the U.S. and other Free World Nations. The judicious use of FMS to deflect that threat is clearly consistent with our national interest.<sup>79</sup> Joseph Sisco in

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<sup>77</sup>"Worlds Armorer", Forbes, 15 May 1973, p. 138.

<sup>78</sup>The Impact of Foreign Military Aerospace Sales on the Industrial Base, Op. Cit., p. 24.

<sup>79</sup>"U.S. Security and World Stability," Commander's Digest, 4 September 1975, p. 5.

congressional testimony has stated that, "One of the objectives that we have in the [Persian Gulf] area which our arms sales support, is continued access to the region's oil supplies..."<sup>80</sup> The use of FMS to achieve this objective has had some success in that Iran did not participate in the 1973 Arab oil embargo and the Shah has indicated that he won't participate in any future boycott against the West.<sup>81</sup> More recently Saudi Arabia broke with the Organization of Petroleum Exporting Countries (OPEC) by limiting its oil price increase to five percent and increasing production to offset the OPEC ten percent increase.

#### B. MILITARY BENEFITS

The FMS program has frequently been touted as a valuable element of our national security. This view has been expressed by the Defense Department which regards FMS as "complimentary to its defense role and national security mission."<sup>82</sup> Foreign Military Sales have been recognized in a recent GAO Report as "supporting the military goal of collective security, providing the U.S. with a first line

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<sup>80</sup>The Persian Gulf, 1975, Op. Cit., p. 14.

<sup>81</sup>United States Foreign Military Sales to Iran, Op. Cit., pp. 72-73.

<sup>82</sup>FMS - A Growing Concern, Op. Cit., p. 4.

of defense, and enhancing U.S. ability to respond to perceived threats."<sup>83</sup>

On the other hand, the FMS program has been accused of adversely impacting on U.S. Force Readiness. During the October 1973 war in the Middle East, the U.S. sent Israel selected items of equipment primarily from U.S. Reserve Force inventories and from prepositioned North Atlantic Treaty Organization (NATO) war reserve stocks in Europe. As a result, according to Deputy Secretary of Defense Clements, there has been some adverse impact on our short-term ability to deploy reinforcements to Europe. Moreover, reserve modernization has been delayed. Eventually, however, improved modernization will result as the older equipment diverted to allies is replaced with more modern items. In addition, these requirements have focused attention on the need to augment parts of our own production base for supplying the total U.S. forces.<sup>84</sup>

It is important to recognize that equipment was shipped to Israel in a crisis situation in which Israel's very survival was at stake. General Fish, Director, DSAA has stated:

"...meeting foreign requirements from assets in the hands of U.S. units, or being produced to equip those units, is not our normal way of doing business. Equipment is diverted from U.S. requirements only when such action is

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<sup>83</sup>Ibid. p. 4.

<sup>84</sup>"Foreign Military Sales," Commander's Digest, 29 May 1975, p. 3.

determined to be in the best interests of the United States in coping with the situation. Most sales are from production arranged specifically for the foreign buyer, and this production helps rather than hurts the equipping of U.S. forces."<sup>85</sup>

The Arms Control Act of 1976 requires the President to submit full justification to Congress for the sale of any defense article or service which could have a significant effect on the combat readiness of the Armed Forces of the United States. Therefore, it seems unlikely that FMS will lead to reduced U.S. Force readiness in the future.

1. Friendly Force Capability

Foreign Military Sales enable allied and friendly third world countries to carry out missions in support of U.S. National Security interests. Using FMS to strengthen NATO forces allows European Nations to assume greater responsibility for their mutual defense which lessens the need for U.S. forces in Europe. Also, due to the qualitative improvement in arms transferred to third world countries, there exists the potential for joint military operations. Iran's purchase of P3C Aircraft and DD-963 Destroyers has provided the possibility for some contribution to the surveillance of the Indian Ocean and Arabian Sea.<sup>86</sup> Iranian

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<sup>85</sup>Ibid. p. 3.

<sup>86</sup>Edward Laurence, The Changing Nature of U.S. Arms Transfers: Implications for U.S. National Security Planning and Policy Research, Naval Postgraduate School, p. 7.

military officials suggest one reason for their military buildup is to defend and keep open the narrow Strait of Hormuz through which pass tankers carrying more than half of the West's oil supply.<sup>87</sup>

Increased friendly force capability decreases the probability of active U.S. involvement in conflict situations. In support of this viewpoint General Fish has commented that "Perhaps most important of all is the fact that the military capability provided by FMS can reduce the likelihood of U.S. military involvement."<sup>88</sup> A decreased probability of active U.S. involvement subsequently reduces the Pentagon's military requirements in terms of numbers and kinds of weapons, resulting in savings which are potentially far more important than savings realized from unit production price reductions and R & D cost sharing reimbursements for weapons sold through FMS.<sup>89</sup>

## 2. Equipment Standardization

There is now a growing acceptance of the need to standardize weapon systems in NATO or at least make these systems interoperable or interchangeable to the greatest degree practicable. This acceptance results from the recognition that:

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<sup>87</sup>"The Arms Dealers: Guns for All," Time, 3 March 1975, p. 42.

<sup>88</sup>"Foreign Military Sales," Commander's Digest, Op. Cit., p. 8.

<sup>89</sup>Foreign Military Sales and U.S. Weapons Cost, Op. Cit., p. 13.

(1) NATO's conventional force effectiveness must be improved, (2) defense budgets throughout the alliance will be further constrained, (3) resources are being dissipated unnecessarily on duplicative developments, (4) lack of interoperability and interchangeability of alliance equipment considerably reduces force effectiveness and (5) the costs to support the resulting variety of weapons types is much larger than would be required for standard or at least interchangeable equipment.<sup>90</sup>

The economic rationale for NATO standardization has been expressed by Major General Richard C. Bowman, Director, European and NATO Affairs, ISA, as follows:

"The case for standardization in NATO remains compelling. Particularly since the post-1973 price increases in energy, pressures on allied economies and defense budgets have made force improvement difficult. To maintain an adequate defense in these circumstances NATO must use available resources as effectively as possible."<sup>91</sup>

A 1975 DOD report on NATO standardization concluded that the lack of standardization costs the alliance several billion dollars each year.<sup>92</sup> The cost of duplicating research and development efforts was highlighted in a 1975 NATO study of short range air defense systems costs which found that for quantities typical of European requirements the total multinational procurement costs for a single

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<sup>90</sup>European Defense Cooperation. Hearing before the Subcommittee on Research and Development, Senate Armed Services Committee, 31 March 1976, p. 100.

<sup>91</sup>"NATO Standardization," Commander's Digest, 9 September 1976, p. 2

<sup>92</sup>European Defense Cooperation, Op. Cit., p. 51.

system were about 25 percent lower than for independent programs.<sup>93</sup> Excessive logistics support costs also contribute to the problem. It has been estimated that with greater standardization the Allied Commander Europe (ACE) mobile force could reduce its logistics staff by one-half.<sup>94</sup>

The greatest justification for standardization is military effectiveness because the highest immediate cost NATO could sustain would be a failure to deter or blunt a Warsaw Pact attack. Commenting on the relationship between military effectiveness and standardization, General Bowman has stated that, "Based upon actual experience with NATO military exercises over the years, we know that insufficient standardization is a serious handicap to alliance military effectiveness."<sup>95</sup> General Andrew J. Goodpaster, former Supreme Allied Commander Europe, has observed that NATO is not getting a satisfactory return on its weapons expenditures. He has noted that, "We are losing at least 30 percent and in some areas 50 percent of our capability due to the lack of standardization."<sup>96</sup>

While most new transatlantic weapons standardization programs are likely to proceed through licensed production,

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<sup>93</sup> Ibid., p. 52.

<sup>94</sup> "NATO Standardization," Commander's Digest, Op. Cit., p. 3.

<sup>95</sup> Ibid., p. 2.

<sup>96</sup> European Defense Cooperation, Op. Cit., p. 53.

in some cases it will be more cost-effective for European allies to buy complete systems or components of systems from the U.S. However, whether or not standardization is achieved through coproduction, as in the case of the F-16, or total system purchase, the FMS program is the only mechanism currently available for the sale of U.S. equipment to NATO. Therefore, FMS will play a vital role in achieving the goal of standardization.

3. Maintenance of U.S. Base and Overflight Rights

The movement away from a bipolar international system has greatly expanded the flexibility of third world countries.<sup>97</sup> This has meant that a common ideological background is no longer enough to guarantee U.S. base rights. The recent situation in Turkey is indicative of this development. When the U.S. Congress imposed an arms embargo against Turkey after its troops invaded Cyprus, Turkey quickly responded by severely restricting U.S. base rights. Also, negotiations with the Philippines for continued use of Subic Bay and Clark Air Base, both vital forward U.S. bases in the Pacific, have been stalled because of a lack of agreement on military and economic aid. The value of U.S. base rights and the use of arms to secure them is exemplified by the recent exchange with Oman of \$1.5 million

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<sup>97</sup> The Changing Nature of U.S. Arms Transfers, Op. Cit., p. 3.

worth of TOW anti-tank missiles for the use of an airfield for "occasional flights and in case of contingency needs."<sup>98</sup>

#### 4. U.S. Logistics Support Base

In a crisis situation, the operational advantage of a widely dispersed logistics base could be decisive. For example, in the event it ever became necessary to deploy forces to the Persian Gulf area in support of U.S.-Iranian interests, it is reasonable to expect that Iranian facilities could be used by American forces and that urgent U.S. spare part requirements could be provided by Iran.<sup>99</sup> This would not only be of strategic value, but a joint-use of similar support facilities would permit lower costs of transporting and supporting equipment.

#### 5. Maintenance of U.S. Industrial Base

The capacity of the defense industrial base is a serious problem to the Department of Defense. For example, the Armed Services consider a large and established aerospace production line to be a national resource because for each of the aircraft production sectors (large bombers, fighters, and military transports) there are actually only a few potential production lines.<sup>100</sup> With procurements less than

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<sup>98</sup>The Persian Gulf, 1975, Op. Cit., p. 43.

<sup>99</sup>United States Foreign Military Sales to Iran, Op. Cit., p. 61.

<sup>100</sup>"Why We Buy the Weapons We Do," Op. Cit., p. 40.

50 percent of what they were seven years ago, it is becoming increasingly difficult to keep production lines open. This threat to the industrial base is of great concern in terms of both mobilization and competition.

The erosion of the Defense Industrial Base has been particularly evident in the Aerospace Industry. In his book, Arming America, Ronald Fox, former Assistant Secretary of the Army (Installations and Logistics) says that the debt/equity ratio of Aerospace companies in the years 1964 to 1970 rose from .25 to .57. There are indications that this picture has worsened in recent years. The debt/equity ratio of defense contractors is as much as 50 percent greater than that of commercial companies. This, combined with the declining defense buying power, the difficulty experienced by Aerospace contractors in obtaining credit, and the declining profits in the Defense Industry, makes the picture anything but bright.<sup>101</sup>

Foreign Military Sales have become a significant factor in overcoming this threat to the U.S. Industrial base. For example, in 1975 the U.S. Army's FMS exceeded its own procurements. The FMS program, at a level of \$8 billion per year, is certainly a major factor in the total procurement

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<sup>101</sup>J. Ronald Fox, Arming America: How the U.S. Buys Weapons, Cambridge, Massachusetts: Harvard Business, 1974, p. 42.

budget. Through these sales, the U.S. is able to broaden and expand the capacity of the Industrial Base and, therefore, the FMS program directly contributes to U.S. wartime mobilization capability.

#### C. FOREIGN POLICY BENEFITS

It has been in the area of Foreign Policy that FMS opponents have registered their sharpest criticisms. Members of Congress are concerned that the rapid growth of U.S. arms transfers abroad has taken place without adequate consideration being given to the potentially destabilizing effects of such transfers. However, a recent Comptroller General report characterized the FMS program as "a useful and highly effective instrument of Foreign Policy."<sup>102</sup> According to the State Department, security relationships are an important element of Foreign Policy and are neither more nor less subject to uncertainties than any other tool of policy. Theoretically, this aspect of Foreign Policy could be dispensed with; but, at a time when the United States needs to utilize its capabilities to the maximum, it would be pointless to forego using any tool that, when wisely used, promises substantial benefit at an acceptable cost and risk.<sup>103</sup>

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<sup>102</sup>FMS - A Growing Concern, Op. Cit., p. 4.

<sup>103</sup>Ibid., p. 12.

## 1. Influence

Foreign Military Sales provide the U.S. with an opportunity to exert political influence and leverage on those countries who buy American-made military hardware. Arms sales are considered to be an effective means of strengthening the bonds of dependency that tie foreign arms recipients to their supplier. Therefore, the more sophisticated and expensive the weapons sold, the more dependent the buyer becomes on training, spare parts, ammunition, etc. which are available only from the supplier. This dependence in turn provides the supplier with considerable political influence on the actions of the buying nation. Additionally, military training, if it succeeds in inculcating shared values, may be a particularly useful basis for future attempts to exert influence.

William Quandt in an article on influence gained through arms supply states that this type of influence has been most effective in the following instances: Decisions concerning military operations or policy concerning war and peace; Deterring action as opposed to reversing it; Reversing undeclared policies; Crisis situations. Quandt believes that the suspension of an ongoing arms relationship, followed by a negotiated resumption of the flow of arms for some specific change of policy on the part of the arms recipient, is the pattern of arms supply most conducive to successful influence attempts. This pattern was used by the U.S.

in the October 1973 Arab-Israeli War to get Israel to accept a ceasefire proposal which, unfortunately, was later rejected by Sadat of Egypt. The United States was also able to prevent Israel from destroying the Egyptian Third Army by threatening to stop arms shipments. This action may well have kept the Soviets from intervening in the war and thus prevented a U.S. - Soviet confrontation.<sup>104</sup>

## 2. Developing Friendly Ties

Foreign Military Sales have proven beneficial in establishing good relations with foreign governments. Deputy Defense Secretary William P. Clements, Jr. has stated that "Arms sale programs form an important link, a bridge, to foreign countries ... foreign governments are grateful and they develop strong bonds with us."<sup>105</sup> Arms sales are considered particularly useful for winning and preserving the friendship of foreign political and military elites; which in many third world countries have a substantial - if not decisive - role in determining national policies.<sup>106</sup> These leaders are increasingly eager to acquire modern aircraft and other advanced hardware and in many instances

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<sup>104</sup> Influence Through Arms Supply. Op. Cit. p. 16.

<sup>105</sup> "Anatomy of the Arms Trade," Op. Cit., p. 42.

<sup>106</sup> "The American Empire at Bay," Op. Cit., p. 47.

look upon arms sales as an equal, if not greater, measure of friendship than economic assistance.

From a psycho-social viewpoint, arms sales serve as a mechanism to improve relations with other nations because they provide the opportunity for frequent contact on the international level.<sup>107</sup> Attitude changes result from exposure to foreign persons which lead to increased openness and trust between key people. Cooperative undertakings on an international level tend to stimulate mutual understanding and promote an atmosphere of reduced tension between nations. A beneficial spin-off of more frequent international contact is the buildup of improved avenues for world communications which counteract the natural divisions which tend to arise from national or ethnic loyalties.

### 3. Regional Stability

One of the principal objectives of the FMS program is to strengthen deterrence and promote peaceful negotiations by helping our friends and allies to maintain adequate defense forces of their own. Commenting on this objective General Fish says, "We seek to achieve regional stability in crucial areas of the world without the need for direct intervention by American forces."<sup>108</sup> This philosophy was exercised in the Persian Gulf after Great Britain withdrew

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<sup>107</sup> Ronald Graves, Military Export Sales: Their Role in National Security, Air Command and Staff College, May 1974, p. 91.

<sup>108</sup> "U.S. Security and World Stability," Op. Cit., p. 3.

its troops from that region in 1968. Instead of the U.S. replacing Great Britain as the great power "policeman" in the Persian Gulf, it was determined that this role should be filled by local powers strong enough to fill the police function.<sup>109</sup>

The FMS program has led to greater regional stabilization in several areas. Speaking before Congress, Under Secretary of State Joseph Sisco said, "We believe that the arms policies that we have pursued in relationship to Iran and Saudi Arabia in particular have contributed ... to greater regional cooperation."<sup>110</sup> He cited as an example Iran and Iraq who were able to work out their differences because Iran developed a strong defensive capability which motivated Iraq to settle their border dispute by peaceful means. In discussing regional stabilization in the Middle East, General Fish has argued that "The Middle East represents an area where our security assistance programs have helped immeasurably to stabilize a volatile area, thus avoiding the need for great power military intervention and the dangers of confrontation."<sup>111</sup>

Critics of arms sales claim that weapons sold to the Persian Gulf promote instability because of the potential

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<sup>109</sup>"The American Empire at Bay," Op. Cit., p. 45.

<sup>110</sup>The Persian Gulf, 1975, Op. Cit., p. 6.

<sup>111</sup>"U.S. Security and World Stability," Op. Cit., p. 5.

problem of arms transfers from that region to Arab countries bordering Israel. Current U.S. policy addresses this problem by requiring all FMS contracts to include a prohibition against weapons transfers without prior U.S. government approval. Although enforcement of this provision is difficult, many countries will respect the agreement for fear of being denied future arms sales or support for existing equipment. Also, U.S. technicians stationed in arms purchasing countries to provide maintenance, training and supply support, are able to monitor U.S. weapons to the extent that they would know very quickly in most cases if equipment was transferred.<sup>112</sup> Finally, even though U.S. control of arms transfers is somewhat limited, it is better than the alternative. Amos Jordan, Assistant Secretary of Defense, ISA, testified before Congress that "The chances of transfers of arms from the Persian Gulf to the Arab-Israeli front would be infinitely greater if the U.S. didn't sell them arms because arms will be purchased elsewhere without any constraints."<sup>113</sup>

#### 4. Counter Soviets

According to the Arms Control and Disarmament Agency, the Soviet Union from 1965-1975 was the second largest

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<sup>112</sup>The Changing Nature of U.S. Arms Transfers, Op. Cit.,  
p. 6.

<sup>113</sup>The Persian Gulf, 1975, Op. Cit., p. 107.

supplier of weapons to the Third World with sales totaling over \$13 billion.<sup>114</sup> The Soviet Union continues to transfer massive quantities of war material to nations outside the Warsaw Pact States. Many third world countries seek to purchase Soviet weapons because Soviet arms exports are highly competitive featuring concessionary credit terms and cut-rate prices.<sup>115</sup>

The Soviet Union has not hesitated to use arms sales to gain influence throughout the third world. In hearings before the Senate Foreign Relations Committee, General Fish reported:

"We are unaware of a single Russian turndown of a prospective arms client. The Soviet Union has shown that it can move rapidly to exploit new opportunities. Its military assistance program has enabled Moscow to establish a strong presence within recipient countries and given it an opportunity to influence the recipient."<sup>116</sup>

The most recent example of this Soviet strategy has been in Africa where the Russians have supplied arms to the Popular Movement for the Liberation of Angola (MPLA) and to Rhodesian guerillas in Mozambique in order to strengthen their foothold on the African continent. Soviet arms supplies to Africa

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<sup>114</sup>World Military Expenditures and Arms Transfers. U.S. Arms Control and Disarmament Agency. Wash. D.C., p. 18.

<sup>115</sup>"Foreign Military Sales," Op. Cit., p. 2.

<sup>116</sup>Foreign Assistance Authorization: Arms Sales Issues. Hearings before the Subcommittee on Foreign Assistance, Senate Foreign Relations Committee. June, November and December 1975, p. 33.

have already enabled them to gain influence in Somolia where the Russians now have a base which is along the main oil supply route to the U.S. and Western Europe.

The FMS program provides the U.S. with a means to counter Soviet influence in the third world and prevent its spread to new areas. This has been particularly true in the Persian Gulf and Middle East where U.S. arms sales have kept the Russians from gaining influence in such countries as Jordan, Oman and Kuwait, thus preventing the Soviets from achieving a dominant role in the Arab world. However, should the U.S. limit arms sales to this region, the USSR would move quickly to fill the void. This became clearly evident when King Jussein of Jordan threatened to purchase anti-aircraft missiles from the Soviet Union when the U.S. Congress hesitated in approving Jordan's request for HAWK missile batteries.<sup>117</sup>

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<sup>117</sup>"New Perils in Arms Sales to MIDEAST," U.S. News & World Report, 16 August 1976, p. 47.

#### IV. FMS TODAY

In analyzing the pro and con arguments presented in Chapters II and III, it is apparent that there are both "real" costs and "real" benefits associated with U.S. arms sales. While an arms sale may result in economic benefits, such as improving the balance of payments and lowering U.S. weapons costs; military benefits in the form of U.S. base rights; and foreign policy benefits, such as developing friendly ties with foreign governments, it may also include certain costs such as the loss of vital U.S. technology and the increased chance of U.S. involvement in foreign conflicts.

However, there seems to be one significant factor which distinguishes between the benefits and costs of FMS. The majority of FMS benefits are currently being enjoyed while the majority of the costs are the problems that may occur in the longer term.

The present costs of FMS appear to be few in relation to the possible future costs. The monetary cost of the approximate 10,000 man-years expended by DOD on FMS in 1975 are significant, but the more important cost is the absorption of the limited manpower resources available to the DOD. There have been costs in dollars and cents as a result of production readjustments caused by foreign military sales orders and material readiness was degraded as a result of drawdowns on U.S. Force equipment to support the Republic of Vietnam and Israel.

By far the most important costs of FMS are those that may occur in the future. Sale of the latest and best high technology weapon systems may wipe out the qualitative edge enjoyed by the U.S. in most weapon systems. Technology transfer may make it possible for other countries to make revolutionary advances which would be detrimental to U.S. security simply by buying the technology from the U.S. An ad hoc arms sale policy and an apparent willingness to sell arms may encourage arms races which, because end use control is not foolproof, may result in conflicts in which the U.S. becomes involved. U.S. defense industries may become so dependent on foreign orders that they encourage more and more sales with less and less control. Abuses of the international logistics support programs by customer countries could result in decreased readiness for U.S. Forces.

All of the above listed costs would have serious impact on U.S. military forces and U.S. foreign relations and could result in great loss of treasure and life for the U.S. The critical point is that all these costs may happen. They are possibilities or perhaps even probable results of current actions but they have not yet occurred.

What has occurred as a result of FMS is that the average sales for the last four years has been about \$8 billion per year which helps to offset growing imports. U.S. military sales exports have kept pace with the increasing oil import payments to Persian Gulf States and have provided many thousands of jobs for defense industry workers. Defense industries

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FOREIGN MILITARY SALES (FMS): COSTS, BENEFITS, AND A NEW APPROACH--ETC(U)  
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The microfiche grid contains 36 frames arranged in three rows and twelve columns. The frames contain various content including text, tables, and charts. The text is too small to read, but the layout suggests a structured document with data analysis. The charts appear to be bar or line graphs. The overall appearance is that of a standard microfiche card with multiple pages of a report.

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have been helped and in at least one case saved from bankruptcy because of foreign military sales. The defense industrial base, an important national resource, has been maintained better than it would have been without FMS and the Government has collected additional tax receipts because of these sales. The Defense Department has realized savings resulting from sales that lowered per unit weapon costs and sales have been used as a bargaining chip for base and overflight rights. Western military capability is being enhanced by developing more capable friendly forces as a result of military equipment sales. Access to oil in the Middle East appears to be assured considering the military dependence of Iran and Saudi Arabia on the U.S. FMS made it easier for the U.S. to assist Iran and Saudi Arabia to become strong enough to fill the power vacuum in the Middle East left by British withdrawal thereby adding greatly to stabilizing the area.

Foreign military sales also help the U.S. to gain influence, counter the Soviets and develop friendly ties. Nowhere is this more evident than in the Middle East where most of the military sales are made. These benefits are not only presently enjoyed but can also be considered as future benefits in that they last for long periods of time. Other future benefits that FMS assist in achieving are the long sought goal of equipment standardization among Western allies and availability of forward logistic support bases because of this standardization. Figure 4 shows the costs (present

FIGURE 4

Cost/Benefit Matrix for FMS

	PRESENT	FUTURE
C O S T S	Absorbs Manpower Increases Unit Costs Degrades Material Readiness	Transfer Of Technology Involvement And Commitment To Recipient Limited Ability To Assure End Use For Purpose Intended Encourages Arms Races That May Lead To Conflict Increasing Defense Industry Dependence On Foreign Purchasers Logistic Support Degradation Supply Support Degradation
	Enhances Balance of Payments Position Recycles Petrodollars Provides Employment Lowers Weapons Costs Provides Defense Industry Business Generates Tax Receipts Assures Access To Oil Increases Friendly Capability Provides Base And Overflight Rights Maintains Industrial Base Contributes to Regional Stability	Facilitating Equipment Standardization Increasing Sources For Logistic Support Provides Influence Counters Soviets Develops Friendly Ties
B E N E F I T S		

and future) and the benefits (present and future) of FMS in matrix form.

The "here and now" advantages of FMS are relatively easily recognized. It is not difficult to look at the financial reports of a defense contractor and determine the effect of FMS on his profit statement. In many cases the effect is the difference in operating at a profit versus a loss; Grumman is a case in point. In a period of economic difficulty the benefit of keeping defense industry employees working in order not to further swell the unemployed rolls is a benefit that can be appreciated every time government reports on unemployment are published. Likewise, in a period when the nation seems to be declining in power and prestige relative to its competitors, the wisdom of making sweeping changes to a program that appears to provide more influence and prestige is questionable.

For these reasons, the FMS program appears to be beneficial to the nation. Nevertheless, it is the opinion of the authors that should the costs of FMS outlined in Chapter II become reality, the FMS program would then become an overall detriment to the United States.

The likelihood of this happening depends on the success of efforts to increase controls over the FMS program. Recent interest in and awareness of the problems connected with the program have led Congress to pass legislation expanding their role in the FMS review process. This action was viewed

by Congress as a means of checking the apparent uncontrolled growth of the program during the early 1970's.

The 1974 amendment to the Foreign Military Sales Act requires the Executive Branch to submit to Congress all proposals to sell military articles or services exceeding \$25,000,000. Congress may reject the proposal within thirty calendar days by passage of a concurrent resolution unless the President states that an emergency exists and that the sale is in the national security interest of the United States. The Arms Export Control Act of 1976 includes a provision requiring that all proposals to sell major defense equipment exceeding \$7,000,000 on a government-to-government basis must be reported in advance to Congress. This act also requires the President to submit to Congress an annual country-by-country justification for the government-to-government military sales program which sets forth:

- (1) An estimate of the amount of sales to be made to each country, including a detailed explanation of the foreign policy and national security considerations involved in sales to each country;
- (2) An estimate of the amounts of credits and guarantees expected to be extended to each country;
- (3) A list of all findings which are in effect on the date of such transmission made by the President relating to eligibility, together with a full and complete justification for each such finding, explaining how sales to each country with respect to which that finding has been made will strengthen the security of the United States and promote world peace;

(4) An arms control impact statement for each country including (a) an analysis of the relationship between expected sales to each country and arms control efforts relating to that country, and (b) the impact of the expected sales on the stability of the region that includes the purchasing country.<sup>118</sup>

Although the above legislation has enlarged the role played by Congress in the process of reviewing and approving FMS transactions, the Executive Branch still holds the key decision-making role in the FMS program. This fact was evident in September 1976 when the Ford Administration submitted formal proposals to Congress to sell almost \$6 billion worth of arms and related equipment and services to ten countries.<sup>119</sup>

These proposals included \$4.5 billion in sales to Iran primarily for the F-16 jet fighter, \$701.6 million to Saudi Arabia, \$241.4 million to Israel, and \$79.5 million to Pakistan. With no advanced notification and only 30 days within which it could reject any of the long list of orders, Congress did not have time to adequately scrutinize the proposed sales and was forced to rely on Executive Branch analysis of the proposals.<sup>120</sup> This example illustrates that

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<sup>118</sup>International Security Assistance and Arms Export Control Act of 1976-1977. Report of the Committee on Foreign Relations, United States Senate. 14 May 1976.

<sup>119</sup>"Arms Sales Plan Sent to Congress," Baltimore Sun, 2 Sep 1976, p. 13.

<sup>120</sup>Congress did carefully examine several proposed sales to Saudi Arabia resulting in a reduction of approved quantities from 1500 to 650 for Maverick Missiles and from 2000 to 850 for Sidewinder missiles.

even though Congress has passed legislation to expand its involvement in the FMS program, the Executive Branch has retained a dominant position in the decision-making process. Therefore, any effort to increase controls over the FMS program must focus primarily on the Executive Branch.

Within the Executive Branch, control of the FMS program has suffered from a lack of advanced planning. The State Department currently reviews FMS transactions on a case-by-case basis as they are received from foreign governments. Even though each proposed sale is assessed by using the rigorous set of criteria outlined in Chapter III, there is no overall analysis of arms exports that takes into account all pertinent factors (military, economic, and political) either viewed from a regional or global perspective. Moreover, the State Department has no formal procedures for evaluating current FMS transactions in the light of potential future sales to both the country in question or its neighbors. In effect, decisions on arms sales are made in isolation without the benefit of a planning mechanism which can provide both a current and long-range in-depth look at military exports from an aggregate standpoint.

The State Department has experimented with a global planning system concept called Policy Analysis and Resource Allocation (PARA).<sup>121</sup> The PARA was devised as a methodology

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<sup>121</sup>William J. Silvey, Policymaking for Foreign Affairs: A General Model, Master's Thesis, Monterey, California: Naval Postgraduate School, 1972, p. 23.

to improve and clarify policy formulation and to incorporate the whole foreign affairs community into a related resource allocation system. Each regional bureau in the State Department has proceeded to develop its own planning model to provide input for the PARA system with no departmental entity being charged with developing a global theory or structure for policy making. In addition, there has been a great deal of institutional resistance to PARA because of concerns that it would limit policy flexibility.

The Bureau of Inter-American Affairs has developed the most comprehensive planning model for input to the PARA system. This is the Country Analysis Strategy Paper (CASP).<sup>122</sup> However, CASP has suffered from two major drawbacks. First, the CASP system plans for only a two year period which is an insufficient timeframe for providing long-range data for decision-making. Second, no attempt is made to review and update the CASP once the planning cycle is complete. The result is a document that is produced at great expense in manpower, but seldom consulted and not considered binding for decision-making.

The apparent lack of success of the PARA concept has severely limited the State Department's ability to analyze FMS decisions within a global perspective and conduct long-range planning for arms sales. This may indicate that it

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<sup>122</sup>Ibid., p. 46.

would be beneficial for the State Department to coordinate with an on-going planning system within another Executive Department. The most obvious choice would be the Planning, Programming, and Budgeting System (PPBS) used by the Department of Defense with which State is already involved and familiar.

The PPBS is the major planning and budgeting tool of the DOD. Its primary purpose is for U.S. Force long-range planning and budgeting. It also includes Allied and Friendly Force data in a Security Assistance PPBS which is a part of the overall Planning, Programming, and Budgeting System. An important element of the Security Assistance PPBS is the Military Security Assistance Projection (MSAP) in which grant aid, FMS credit sales, and FMS cash sales are projected for a five year period and analyzed on a regional and global basis. FMS cash sale data was included in the system in 1976 but is currently used only to assist in making budget decisions for grant aid and FMS credit sales. However, it appears the Security Assistance Projection could be used in making FMS cash sale decisions as well.

The following chapter will outline the Security Assistance PPBS and discuss how the system might be modified for better FMS cash sale decision-making.

## V. FMS PLANNING: A COORDINATED APPROACH

### A. SECURITY ASSISTANCE PPBS

The Security Assistance PPBS cycle spans the approximate 28-month period of time necessary to develop guidance, to plan responsive programs for the current planning period, and to obtain authorization and appropriations for the first year of the planning period. Figure 5 is a flow-chart of the key events in the planning cycle.

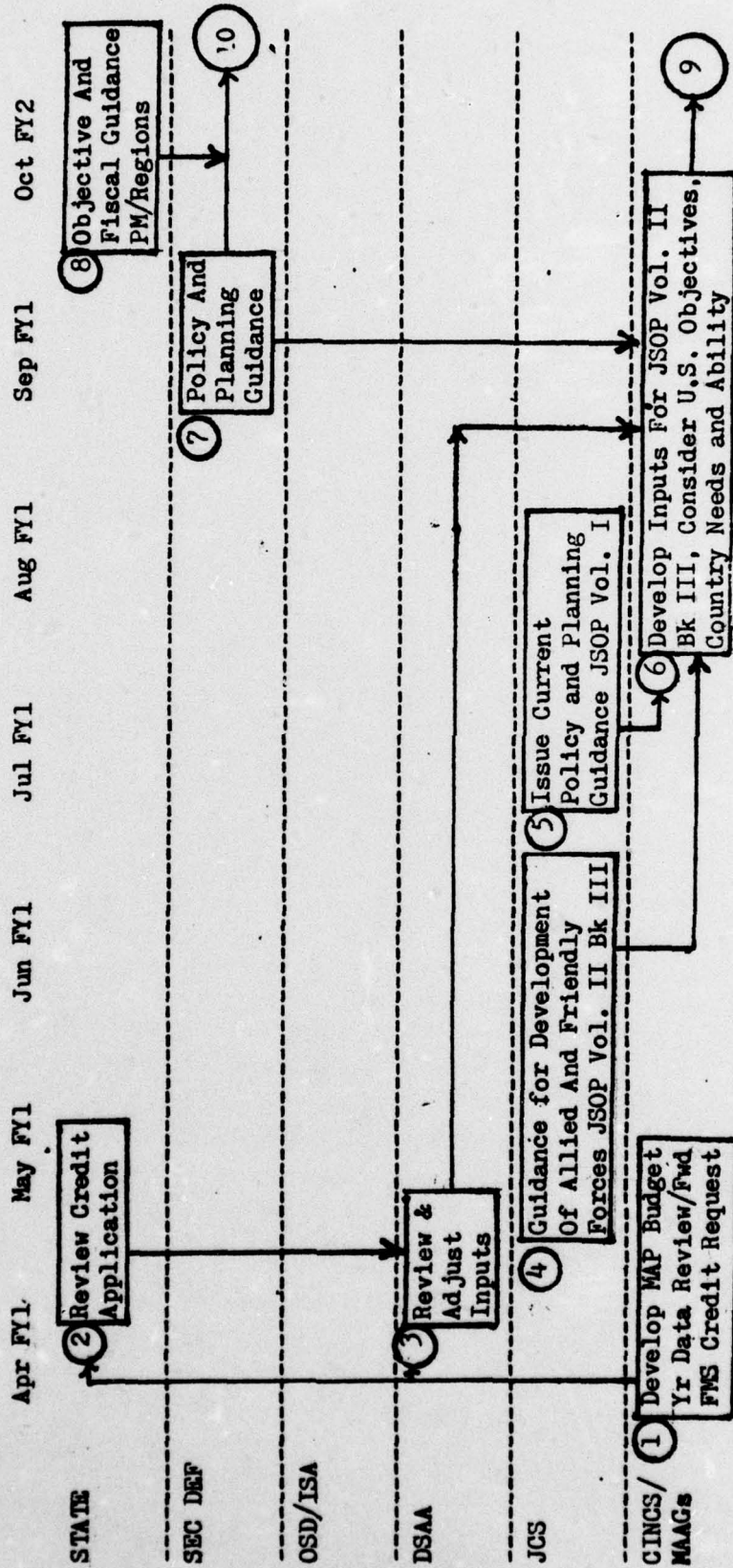
MAP and FMS procurements generally begin with the host country interacting with the U.S. diplomatic mission or MAAG. Fundamental responsibility for decisions relating to the level and nature of the defense effort and the allocation of resources rests with the host government. Thus, to the extent practical, within applicable guidelines and consistent with U.S. responsibility for controlling its own resources, development and justification of U.S. security assistance plans and programs are functions of the host government. The essential role of the MAAG is to assist the host government in making its decisions, dissuading it from those that constitute an unwise allocation of resources or that otherwise do not contribute effectively to the achievement of U.S. objectives.

From May through October the MAAG, in coordination with the host country and the unified commands (CINCs), acting upon guidance furnished by the Joint Chiefs of Staff (JCS),

— Directive or Data Flow  
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FIGURE 5

PPBS: Military Assistance Program (MAP)/FMS Credit



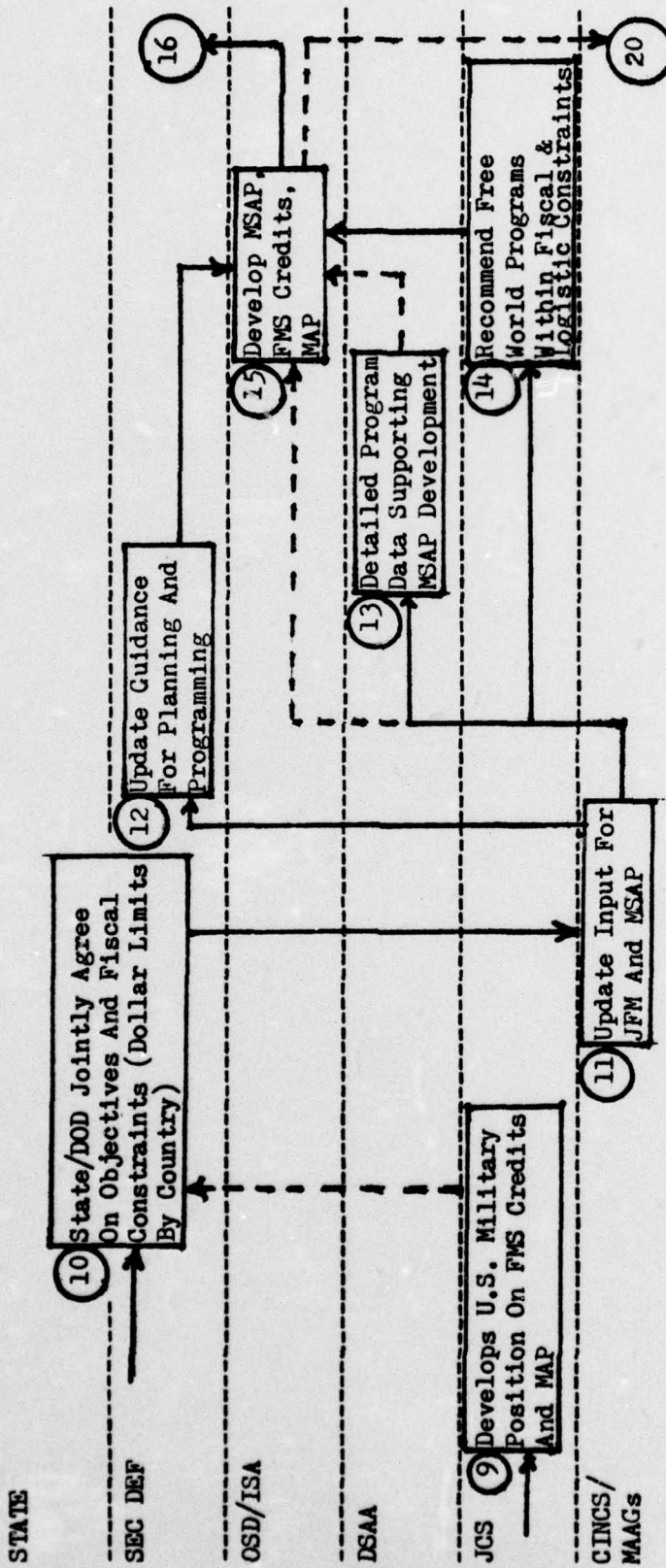
JSOP= Joint Strategic Objectives Plan

Source: Military Assistance and Sales Manual  
 U.S. FMS: Its Legal Requirements, Procedures, and Problems

FIGURE 5 (Cont)

PPBS: MAP/FWS Credit

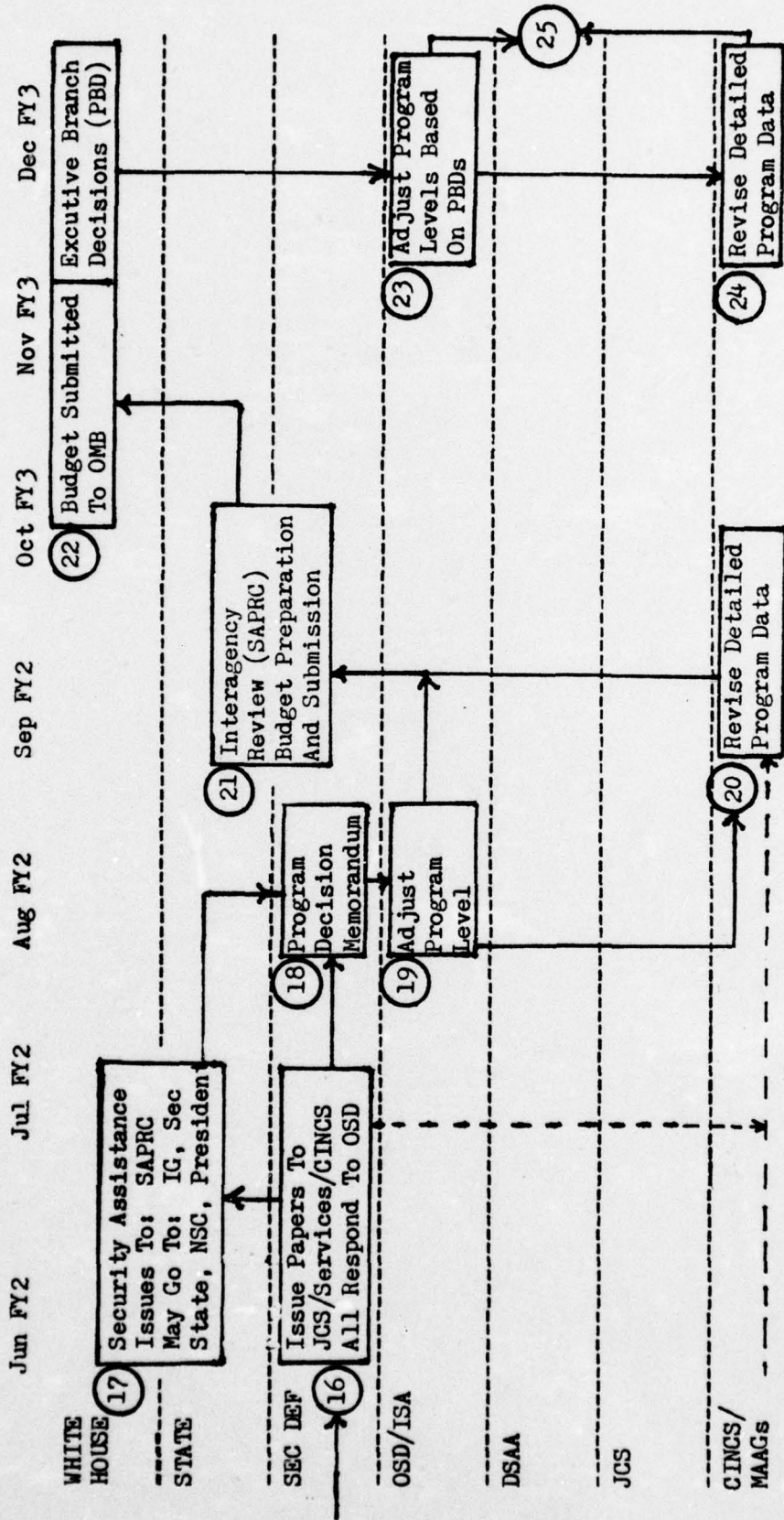
Nov FY2      Dec FY2      Jan FY2      Feb FY2      Mar FY2      Apr FY2      May FY2



JFM=Joint Forces Memorandum      MSAP= Military Security Assistance Projection

FIGURE 5 (Cont)

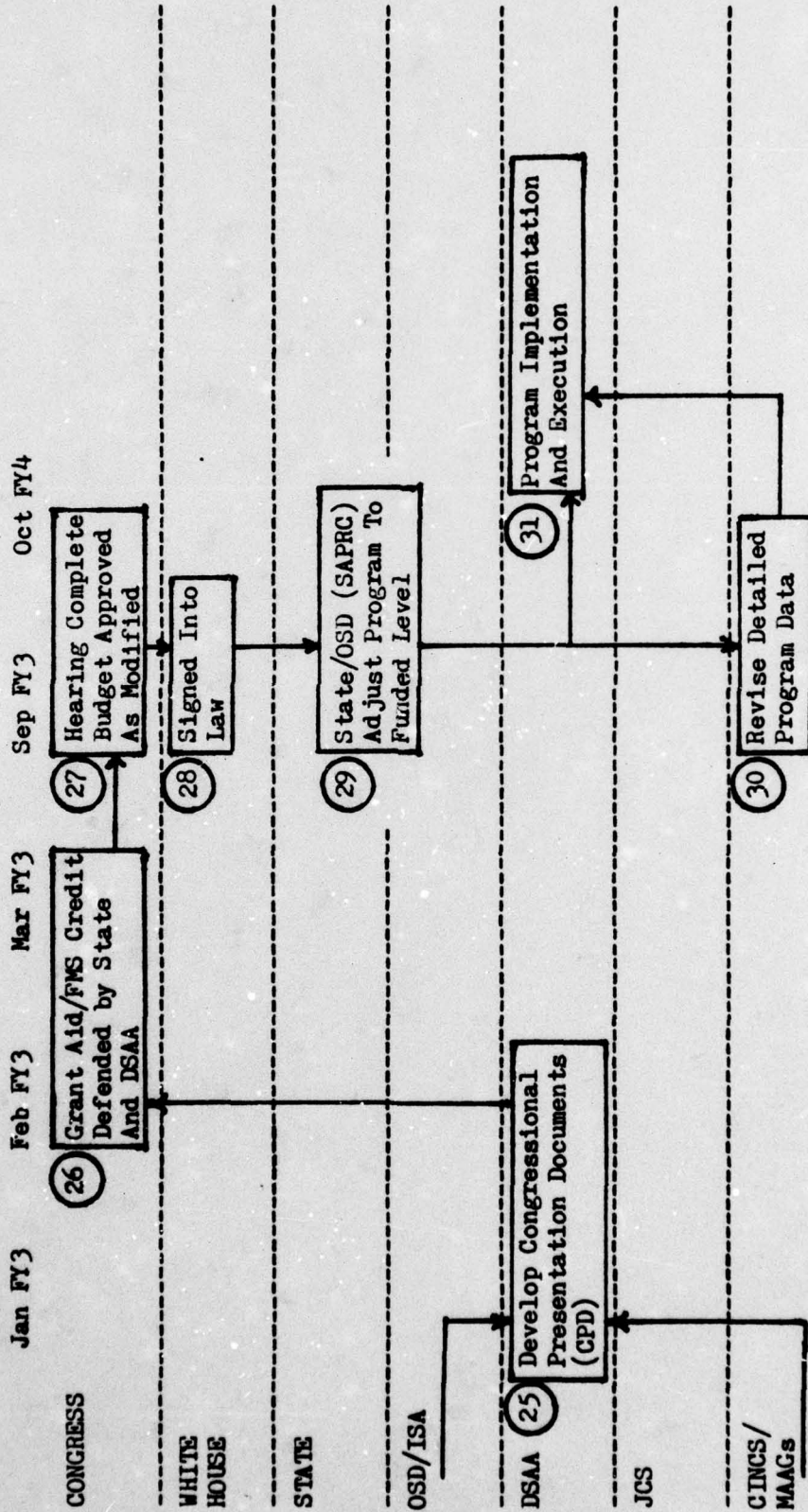
PPBS: MAP/FWS Credit



SAPRC= Security Assistance Program Review Committee IG= Interdepartment Group, NSC

FIGURE 5 (Cont)

PPBS: MAP/FMS Credit



and the Secretary of Defense (SECDEF), develops a detailed recommendation for the Joint Strategic Objectives Plan (JSOP), Volume II, Book III, Allied and Friendly Forces. In December, the JCS issues this document which provides an estimate of Allied and Friendly Countries major objective force levels for the mid-range period in support of U.S. national security objectives and serves as the basis for establishment of the U.S. military position on military security assistance. State and DOD generally agree at this time on the national security objectives and fiscal constraints (dollar limits) for MAP and FMS credits on a country by country basis. These decisions are passed back to the CINCs/MAAGs for updating and reprogramming action.

In January the CINCs/MAAGs submit the necessary inputs for the Joint forces Memorandum (JFM) and the MSAP. This input is based on the latest policy, planning and programming guidance and is reflected in a recommended update to the MSAP which is transmitted to JCS and OSD/ISA. Concurrently, detailed program data supporting the budget year is provided to DSAA.

The MSAP is prepared by OSD/ISA considering the JFM and the MAAG/CINC recommendations for the updated MSAP. It specifies objectives for military security assistance, grant material aid, grant foreign military training, FMS cash and credit sales, U.S. commercial sales, and non-U.S. sales to country/region. It also recommends the total

resource requirements within the parameters of guidance provided by the SECDEF. The MSAP is forwarded to the SECDEF and information copies are provided to the JCS, CINCs, Military Departments, MAAGs, and to selected agencies in the executive branch outside DOD to advise of program levels. The Military Departments reflect the net effect of military security assistance on their manpower and production base requirements in their service Program Objective Memorandum (POMs).

As a result of the MSAP review within DOD, issue papers are circulated for comment to the JCS, Services, and CINCs before being submitted for decision to the SECDEF. In addition, fiscal constraints or objectives may become issues between State and DOD. The Security Assistance Program Review Committee (SAPRC) normally handles such issues, but if the issue is of sufficient gravity, the Secretaries of State, Defense, Treasury, the National Security Council (NSC), or the President may become involved. However, issues are normally settled at a lower level. Program Decision Memorandums (PDMs) are issued by SECEEF based upon issue resolution.

A security assistance review for the budget year and one out-year takes place at the agency level in September and concludes with a review by SAPRC. The State Department then develops a security assistance budget, including dollar levels by country and type of assistance, for submission to the Office of Management and Budget (OMB).

By this process, the budget submitted by the President to Congress in January contains requests for money to fund the MAP and FMS credit programs for the next fiscal year. State and DSAA defend the military security assistance portion of the budget before Congress. After the legislative process result in budget authorizations, MAP programs are initiated through the appropriate Military Department's supply and/or procurement process.

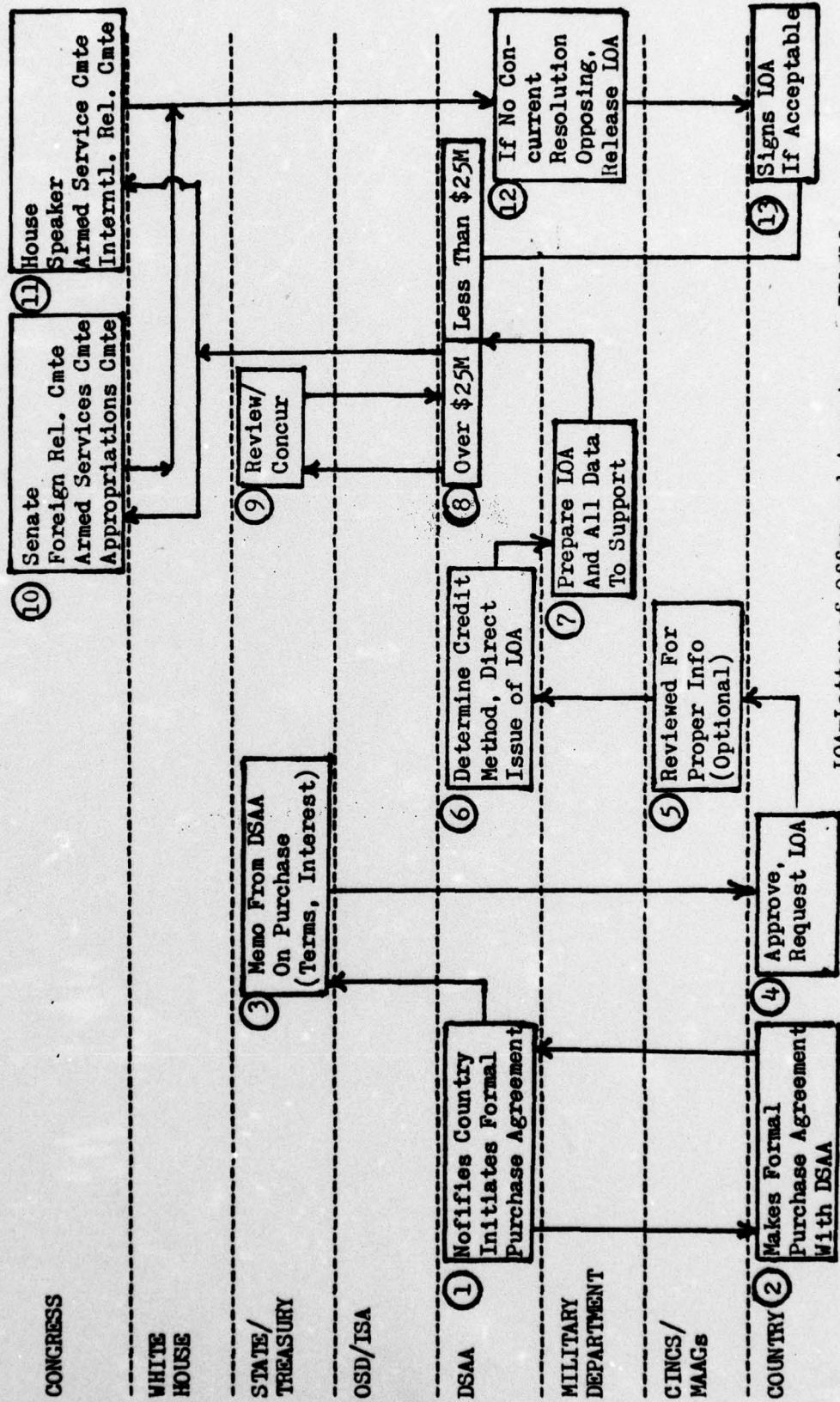
FMS credits take a different route once Congress has completed action on the Budget (See Figure 6). DSAA obtains interagency approvals and then notifies the recipient country and makes a formal agreement on direct credit purchases. Once approved, the recipient country may then initiate a request for a Letter of Offer (LOA). After review of the request, DSAA directs the appropriate Military Department to prepare the LOA and to provide DSAA with all supporting data. LOAs exceeding \$25 million must be submitted to Congress for approval, otherwise, they are forwarded directly to the recipient country for acceptance.

#### B. A NEW APPROACH

The Security Assistance PPBS could, with minor modifications, be used by the Executive Branch as a planning mechanism for FMS cash sales. There are several points of coordination in the present system between State and DOD which could be expanded to include deliberations on FMS cash sales. The Military Security Assistance Projection includes

FIGURE 6

Processing An Approved FMS Credit Transaction



LOA=Letter of Offer and Acceptance, DDI513.

a five year forecast of FMS cash sales by country and region which could be used as the data base for an aggregate analysis of FMS cash sales. Therefore, the Security Assistance PPBS already contains the basic components necessary for providing decision-makers with better information on which to base their decisions on FMS cash sales. All that is needed is an earlier introduction of the cash sale data into the system, better coordination, and stronger interface points between State and DOD.

Planned FMS cash purchase data should be introduced into the PPBS cycle when the CINCs/MAAGs forward FMS credit requests to DSAA and State (Figure 5, Step 1). This should be done in close cooperation with the officials of the Country Team.<sup>123</sup> Inclusion of FMS cash requests at this time would give DSAA and particularly State an opportunity to look at a total security assistance package early in the planning cycle.

The initial State Department review of FMS cash/credit applications (Figure 5, Step 2) would be based on general guidelines which could sort out those requests that are obviously unacceptable. The guidelines could include questions such as:

1. Is this sale consistent with foreign policy interests of the United States?

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<sup>123</sup>The Country Team is composed of the Ambassador, his Advisors, Attaches, other agency representatives, and the Chief of the MAAG or Missions.

2. Will this sale have negative impact on the social and economic development of the country?

3. Are there any restrictions on the sale of particular weapon systems to this country?

4. Does this sale facilitate the common defense?

5. Does the proposed weapon sale violate technology transfer restrictions?

FMS cash/credit applications which are acceptable would be forwarded to DSAA for adjustments (Figure 5, Step 3) for later input into the development of the JSOP Vol. II, Book III (Figure 5, Step 6). The inclusion of FMS cash sale data into the JSOP would enable the JCS to develop a military position on FMS cash sales as well as MAP aid and FMS credit sales.

The State Department would also conduct a detailed country and regional review of those FMS cash/credit applications which passed the initial screening. This detailed review would be in preparation for the State/DOD meeting to obtain joint agreement on objectives and fiscal constraints for the Security Assistance Program (Figure 5, Step 10). Since DOD would provide the military analysis of proposed FMS cash/credit sales, the State Department review should focus on economic and political implications of the sale. The economic and political criteria presented in Chapter III would be appropriate for this review. The review should not only apply the criteria to sales in individual countries, but should take into consideration the regional perspective as well.

At the State/DOD meeting (Figure 5, Step 10), in addition to establishing fiscal constraints for MAP and FMS credits, a joint agreement could be reached on the level of FMS cash sales by country and region. This agreement would be based on a joint analysis of the economic and political review by State and the military review by DOD of FMS cash sale proposals. The agreement on the level of FMS cash sales would then be sent along with the fiscal constraints for MAP and FMS credits to the CINCs/MAAGs for developing inputs to update the MSAP (Figure 5, Step 11).

Updates to the MSAP are currently prepared by the CINCs/MAAGs in coordination with State officials on the country team. However, in the present use of the MSAP, projections for FMS cash sales are used only as supporting data for making budget decisions on MAP and FMS credits and therefore, are less likely to be scrutinized carefully by the country team. With FMS cash sales being given equal status with MAP and FMS credits in the new system, it would be necessary for the country team to work more closely with the CINCs/MAAGs in developing FMS cash sale projections.

The MSAP is presently developed by OSD/ISA with inputs from the JFM and recommended updates from the CINCs/MAAGs (Figure 5, Step 15). Involvement of the State Department in the MSAP preparation would be appropriate if FMS cash sales are included in the Security Assistance PPBS process. State Department liaison with OSD/ISA would provide them

with the opportunity to incorporate guidance from the Secretary of State on FMS cash sales.

In the present Security Assistance PPBS, the MSAP is primarily used by DOD to develop recommended program levels for MAP and FMS credits which are reflected in Program Decision Memoranda (PDM) issued by the Secretary of Defense (Figure 5, Step 18). At this point in the PPBS cycle the Secretary of State could also use the MSAP to formalize program decisions for FMS cash sales. The previous agreement on the level of FMS cash sales by country and region would be critically reviewed in light of updated data in the MSAP for the current year and the five year security assistance projection. By considering proposed future FMS cash sales, the State Department would be a better position to answer questions on current proposals such as:

1. How does the sale affect the regional military balance?
2. Is the recipient country capable of absorbing and using the arms effectively?
3. Will the sale strain the country's ability to manage its debt obligation or entail operations and maintenance costs that might make excessive demands on future budgets?
4. Will the sale set a precedent which could lead to further requests for arms or for similar requests from other countries?

Program decisions made by the Secretary of State on FMS cash sales would be included in the interagency security

assistance program review (Figure 5, Step 21). Presently, at the conclusion of this review, the State Department prepares a security assistance budget for submission to OMB (Figure 5, Step 22). FMS cash sales could be included in this budget in the form of recommended levels by country and region for the upcoming fiscal year.

The Presidential Budget Decision (PBD) would approve the overall security assistance program and include an approved dollar level for FMS cash sales for the fiscal year. The Congressional Presentation Document (CPD) for security assistance would contain a recommended level for FMS cash sales and detailed supporting documentation for FMS cash sales in addition to what is normally provided for MAP and FMS credit sales (Figure 5, Step 25). Finally, State and DSAA would defend the entire security assistance program, including FMS cash sales, at the Congressional Hearings (Figure 5, Step 26).

By this process, the Congress would be able to set a yearly ceiling on FMS cash sales. This would not only increase Congressional control over the FMS program, but it would also reinforce Executive Branch planning for FMS cash sales. An effort was made to include a provision in the Arms Export Control Act of 1976 which would set a ceiling on FMS cash sales, however, it was deleted due to strong Executive Branch objections. If the Executive Branch developed a recommended FMS ceiling by way of the Security

Assistance PPBS and Congress approved it with minor modifications as is usual then, it is reasonable to assume that the Executive Branch objections to a ceiling would be eliminated.

After Congress has voted a ceiling on FMS cash sales, the State Department in cooperation with DOD and SAPRC would adjust the FMS program to coincide with the ceiling authorized (Figure 5, Step 29). FMS cash sale requests could then follow the same path currently taken by FMS credit sales (Figure 6), except that the steps involving interest rates and credit method would be by-passed.

#### C. IMPLEMENTATION PROBLEMS

A key factor in implementing a Security Assistance PPBS which includes FMS cash sales will be the ability of foreign governments, particularly lesser developed countries (LDCs), to develop rational, long-range planning systems for providing inputs to the PPBS process. In many LDCs this is a totally alien concept. In fact, as discussed in Chapter Four, even the U.S. State Department has had difficulties in developing a planning mechanism. Consequently, the U.S. would have to provide a great deal of assistance to LDCs in developing planning systems and training personnel in their proper use. In the interim, the country teams would have to work very closely with foreign governments to develop long-range force structure plans emphasizing weapons requirements.

Another drawback would be a possible lack of cooperation from foreign governments in working with the U.S. to develop long-range plans for weapon procurements. Potential customers might view this as unnecessary outside interference in their internal affairs and opt to take their business elsewhere. In addition, governments which pay cash have no apparent motivation to participate in the PPBS since they are not receiving aid or credit and, therefore, would probably find it less burdensome administratively to buy from another supplier. Finally, governments might not be willing to accept additional delays in receiving arms that would result from a long-range planning system.

There are several reasons FMS customers might find it advantageous to cooperate with the U.S. in planning arms purchases well in advance of actual requirements. The most compelling reason is that U.S. weapons are in high demand throughout the world. In testimony before Congress, Philip C. Habib, Undersecretary of State for Political Affairs stated:

"Our arms industry - like agriculture and our other advanced technology industries - happens to be the best in the world. We not only manufacture the best planes, ships, and other systems; we provide better training and more reliable logistic support. We do not seek to force arms sales on others. Our products are sought by modernizing States."<sup>124</sup>

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<sup>124</sup>"Department Testifies On Proposed Military Sales To Foreign Governments," The Department Of State Bulletin, Vol. LXXV, No. 1946, 11 October 1976, p. 450.

Another incentive to participate would be that countries could find out much earlier the amount and types of weapons the U.S. would be willing to sell, thereby reducing many uncertainties in their force structure planning.

The planning cycle of PPBS might also assist customer countries to more rationally and systematically approach decisions on defense expenditures. For instance, Iran, one of the world's largest arms purchaser, is finding it increasingly difficult to pay for its growing military establishment due to declining oil revenues. By participating in the PPBS planning process, Iran would have a better tool to help make long-range budgeting decisions in order to more effectively allocate their resources.

In addition to external problems resulting from integrating foreign governments into the system, there might be several internal Executive Branch problems as well. The question of agency prerogatives of both State and DOD could easily become a major stumbling block without close cooperation and open communications between the two departments. Also, State Department personnel might oppose the system for fear of losing flexibility as they did with their own PARA system. Finally, increased resources necessary to implement the system, particularly manpower, could prove to be a problem.

Congress may also experience some difficulty in dealing with an integrated "big picture" approach to security

assistance planning. Despite statements made by various Congressmen that the Executive Branch needs to develop an integrated long-range procedure for dealing with foreign military sales, the Congress itself appears to feel more comfortable and secure dealing with sales on a case-by-case basis. This allows considering one transaction without being overly concerned with what the result will be in ten years and allows decisions to be made to maximize short-term benefits for the Congressman or his constituents.

Since the new approach to security assistance planning would provide a long-range integrated plan for security assistance, it would require more analysis and study by Congress and would lessen the ability of Congressmen to pick and choose those specific sales felt to be in their interests. In short, in order to make the system work the Congress would have to become much more programmatic in its approach to FMS and be less concerned with short-term return to themselves. This would be a difficult, but not impossible task, for a Congress whose constituents are interested, in many cases, only in, "What have you done for me today?"

However, the advantage of the system in supplying both aggregate and long-range data for FMS decision-making should be a sufficient reward for overcoming these problems.

APPENDIX A.

PAST SAVINGS FISCAL YEARS 1972-76

(Millions of Current Dollars)

System	Total Savings	Research and Development	Learning Curve	Overhead	Production Line Gap	Other
M60A1, Combat Tank	124.1	1.9	0.0	59.5	0.0	62.7
M728, Combar Engineer Vehicle	1.1	0.0	0.0	0.7	0.0	0.4
M60A1, Tank Chassis for AVLR Launcher	2.0	0.1	0.0	1.5	0.0	0.4
AVLB Launcher	0.2	0.0	0.0	0.0	0.0	0.1
AVL Bridge	0.1	0.0	0.0	0.0	0.0	0.1
M13A1 APC - Family roll-up	27.4	0.0	7.7	15.6	2.5	1.6
SP8" M110 Howitzer	14.5	0.7	5.4	6.7	1.6	0.0
M578 Recovery Vehicle	5.8	0.6	4.2	0.5	0.6	0.0
SP 155MM, M109A1B Howitzer	16.5	1.4	0.0	13.6	1.5	0.0
M88A1 Recovery Vehicle	0.0	0.0	0.0	0.0	0.0	0.0
AA, SP, M163 (VULC) Gun	5.8	0.0	0.0	5.3	0.5	0.0
H1 Helicopter Series	36.4	4.9	0.3	31.3	0.0	0.0
Dragon	0.0	0.0	0.0	0.0	0.0	0.0
Tow	89.6	25.5	21.8	5.7	0.0	36.6
Chapparaal Launcher	0.0	0.0	0.0	0.0	0.0	0.0
Chapparaal (GM)	0.0	0.0	0.0	0.0	0.0	0.0
Hawk Missile System	25.3	8.3	5.7	11.3	0.0	0.0
Lance Missile System	10.0	4.0	0.0	0.0	6.0	0.0
Phoenix	19.1	15.5	1.2	0.3	0.0	2.1
Stidewinder (AIM-9L)	0.0	0.0	0.0	0.0	0.0	0.0
P-3	1.2	1.2	0.0	0.0	0.0	0.0
S-3A	0.0	0.0	0.0	0.0	0.0	0.0
E-2C	0.0	0.0	0.0	0.0	0.0	0.0
F-14	229.2	168.6	20.6	40.1	0.0	0.0
A-7	1.5	0.2	1.3	0.0	0.0	0.0
Harpoon	22.0	3.4	4.6	10.2	0.0	3.8
F-15	0.0	0.0	0.0	0.0	0.0	0.0
F-16	0.0	0.0	0.0	0.0	0.0	0.0
F-5E/F	40.0	18.8	8.0	9.6	0.0	3.6
AWACS	0.0	0.0	0.0	0.0	0.0	0.0
AIM-9B Mod. to AIM-9S	0.0	0.0	0.0	0.0	0.0	0.0
Maverick	5.6	5.6	0.0	0.0	0.0	0.0
F-4E	299.4	25.4	1.2	263.8	9.0	0.0
Pave Spike	0.0	0.0	0.0	0.0	0.0	0.0
EOGB II	5.9	0.0	0.5	0.0	0.0	5.4

Source: Department of Defense

APPENDIX B.  
ESTIMATED FUTURE SAVINGS FISCAL YEARS 1977-81  
(Millions of current dollars)

System	Total Savings	Research and Development	Learning Curve	Overhead	Production Line Gap	Other
M60A1, Combat Tank	335.7	3.9	0.0	216.2	0.0	115.6
M72B, Combat Engineer Vehicle	11.4	0.3	0.0	7.2	0.0	3.9
M60A1, Tank Chassis for AVLB Launcher	7.2	0.2	0.0	5.8	0.0	1.3
AVLB Launcher	0.3	0.0	0.0	0.0	0.0	0.3
AVL Bridge	0.4	0.0	0.0	0.0	0.0	0.4
M113A1 APC - Family roll-up	91.3	0.0	26.9	54.7	9.5	0.2
SP8" M110 Howitzer	0.2	0.2	0.0	0.0	0.0	0.0
M578 Recovery Vehicle	5.1	0.6	1.7	2.8	0.0	0.0
SP 155MM, M109A1B Howitzer	53.9	2.3	5.9	37.3	8.4	0.0
M88A1 Recovery Vehicle	5.7	0.0	0.0	5.7	0.0	0.0
AA, SP, M163 (VULC) Gun	17.9	0.0	0.0	15.1	2.8	0.0
H1 Helicopter Series	27.1	3.9	0.7	19.0	3.5	0.0
Dragon	40.7	20.7	17.5	2.5	0.0	0.0
Tow	75.9	23.6	31.4	8.0	5.0	7.9
Chapparral Launcher	17.0	4.5	8.6	1.6	2.3	0.0
Chapparral (GM)	11.6	3.7	2.7	1.5	3.7	0.0
Hawk Missile System	63.5	23.4	9.5	30.6	0.0	0.0
Lance Missile System	60.0	6.0	0.0	0.0	54.0	0.0
Phoenix	13.5	0.0	4.5	1.2	0.0	7.8
Sidewinder (AIM-9L)	6.1	0.0	6.1	0.0	0.0	0.0
P-3	6.8	4.8	0.0	2.0	0.0	0.0
S-3A	13.5	7.5	0.0	2.0	0.0	4.0
E-2C	16.6	6.8	0.0	9.8	0.0	0.0
F-14	0.0	0.0	0.0	0.0	0.0	0.0
A-7	4.1	0.5	3.6	0.0	0.0	0.0
Harpoon	94.5	49.7	20.0	10.3	0.0	14.5
F-15	70.1	40.0	30.1	0.0	0.0	0.0
F-16	126.0	67.7	43.7	14.6	0.0	0.0
F-5E/F	67.0	23.0	11.6	24.9	0.0	7.5
AWACS	338.6	219.8	118.8	0.0	0.0	0.0
AIM-9B Mod. to AIM-9S	3.0	0.4	0.0	0.0	0.0	2.6
Maverick	114.8	17.2	58.5	0.0	34.1	5.0
F-4E	113.6	10.8	0.0	102.8	0.0	0.0
Pave Spike	1.0	1.0	0.0	0.0	0.0	0.0
E0GB II	1.5	.7	0.0	0.0	0.0	0.7

Source: Department of Defense

APPENDIX C.

ESTIMATED TOTAL SAVINGS AND SALES FISCAL YEARS 1972-81

(Millions of Current Dollars)

System	Total Sales	Total Savings	Research and Development	Learning Curve	Overhead	Production Line Gap	Other
M60A1, Combat Tank	1,232.7	459.8	5.8	0.0	275.7	0.0	178.3
M72B, Combat Engineer Vehicle	26.9	12.4	0.3	0.0	7.9	0.0	4.2
M60A1, Tank Chassis for AVLB Launcher	46.9	9.2	0.3	0.0	7.3	0.0	1.7
AVLB Launcher	53.1	0.4	0.0	0.0	0.0	0.0	0.4
AVL Bridge	10.5	0.5	0.0	0.0	0.0	0.0	0.5
M113A1 APC - Family roll-up	1,346.2	118.7	0.0	34.6	70.3	12.0	1.8
SP8" M110 Howitzer	21.8	14.7	0.8	5.4	6.7	0.6	0.0
M578 Recovery Vehicle	50.9	10.8	1.1	5.9	3.3	1.6	0.0
SP 155MM, M109A1B Howitzer	241.1	70.4	3.7	5.9	50.9	9.8	0.0
M88A1 Recovery Vehicle	84.9	5.7	0.0	0.0	5.7	0.0	0.0
AA, SP, M163 (VULC) Gun	205.8	23.7	0.0	0.0	20.4	3.3	0.0
H1 Helicopter Series	601.0	63.5	8.8	1.0	50.3	3.5	0.0
Dragon	291.0	40.7	20.7	17.5	2.5	0.0	0.0
Tow	670.7	165.5	49.1	53.2	13.7	5.0	44.5
Chapparral Launcher	133.0	17.0	4.5	8.6	1.6	2.3	0.0
Chapparral (GM)	58.0	11.6	3.7	2.7	1.5	3.7	0.0
Hawk Missile System	181.1	88.8	31.7	15.2	41.9	0.0	0.0
Lance Missile System	297.0	70.0	10.0	0.0	0.0	60.0	0.0
Phoenix	193.0	32.6	15.5	5.7	1.5	0.0	9.9
Sidewinder (AIM-9L)	34.1	6.1	0.0	6.1	0.0	0.0	0.0
P-3	249.1	8.0	6.0	0.0	2.0	0.0	0.0
S-3A	350.0	13.5	7.5	0.0	2.0	0.0	4.0
E-2C	111.1	16.6	6.8	0.0	9.8	0.0	0.0
F-14	1,412.2	229.2	168.6	20.6	40.1	0.0	0.0
A-7	206.3	5.6	0.7	4.9	0.0	0.0	0.0
Harpoon	395.4	116.5	53.1	24.6	20.5	0.0	18.3
F-15	240.0	70.1	40.0	30.1	0.0	0.0	0.0
F-16	885.6	126.0	67.7	43.7	14.6	0.0	0.0
F-5E/F	1,683.6	107.0	41.8	19.6	34.5	0.0	11.1
AWACS	3,476.0	338.6	219.8	118.8	0.0	0.0	0.0
AIM-9B Mod. to AIM-9S	8.8	3.0	0.4	0.0	0.0	0.0	0.0
Maverick	241.5	120.4	22.8	58.5	0.0	0.0	2.6
F-4E	2,142.0	413.0	36.2	1.2	366.6	34.1	5.0
Pave Spike	20.0	1.0	1.0	0.0	0.0	9.0	0.0
E0GB II	14.3	7.4	0.0	1.3	0.0	0.0	0.0

Source: Department of Defense

APPENDIX D.

SAVINGS AND SALES IN CURRENT AND CONSTANT DOLLARS FISCAL YEARS 1972-81  
(Millions of dollars)

System	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Total
<b>M60 TANK</b>											
Savings (current)	16.1	22.5	3.1	5.9	106.6	68.7	65.8	60.6	56.6	53.9	459.8
Savings (constant)	24.6	32.8	4.2	6.8	115.7	68.7	62.0	54.3	48.6	44.5	462.2
Sales (current)	40.8	50.0	8.5	13.7	213.6	212.6	186.3	174.3	167.9	165.0	1,232.7
Sales (constant)	62.3	72.9	11.4	15.9	231.9	212.6	175.6	156.0	144.1	136.4	1,219.1
<b>M113A1APC</b>											
Savings (current)	10.8	6.6	5.6	1.1	.8	9.7	14.6	16.9	16.6	24.0	106.7
Savings (constant)	16.4	9.6	7.5	1.3	.9	9.7	13.8	15.1	14.2	19.8	108.3
Sales (current)	48.1	37.9	375.3	81.8	333.2	141.6	253.0	75.0	0	0	1,345.9
Sales (constant)	73.4	55.2	505.1	94.7	361.8	141.6	238.5	67.1	0	0	1,537.4
<b>HARPOON</b>											
Savings (current)	0	0	0	0	22.0	27.0	20.1	15.1	14.1	18.2	116.5
Savings (constant)	0	0	0	0	23.9	27.0	18.9	13.5	12.1	15.0	110.4
Sales (current)	0	0	0	0	86.2	109.4	60.2	39.2	37.1	63.3	395.4
Sales (constant)	0	0	0	0	93.6	109.4	56.7	35.1	31.8	52.3	376.9
<b>F14</b>											
Savings (current)	0	0	168.6	22.8	38.0	0	0	0	0	0	229.4
Savings (constant)	0	0	226.9	26.4	41.3	0	0	0	0	0	294.6
Sales (current)	0	0	1,412.2	0	0	0	0	0	0	0	1,412.2
Sales (constant)	0	0	1,900.7	0	0	0	0	0	0	0	1,900.7
<b>HAVERICK</b>											
Savings (current)	0	0	0	5.6	13.0	37.4	29.0	20.5	10.1	4.8	120.4
Savings (constant)	0	0	0	6.5	14.1	37.4	27.3	18.4	8.7	4.0	116.4
Sales (current)	0	0	0	69.5	4.3	83.6	84.1	0	0	0	241.5
Sales (constant)	0	0	0	80.4	4.7	83.6	79.3	0	0	0	248.0

Source: Department of Defense

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