



UNITED STATES
MILITARY EXPORTS

1968-1974

RESEARCH REPORT

aerospace research center

1725 DE SALES STREET, N.W., WASHINGTON, D.C. 20036

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AEROSPACE RESEARCH CENTER

AEROSPACE INDUSTRIES ASSOCIATION OF
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INTRODUCTION

Orders for United States military exports have quadrupled since 1968 amounting to \$12.7 billion in 1974 compared with \$3.1 billion six years ago.¹ *Deliveries* of those exports, however, often are stretched out over a period of years and thus have not escalated on par with total orders. In 1974, deliveries amounted to an estimated \$5.4 billion or less than half of the orders received. At any rate, both aggregates—orders and deliveries—represent a significant part of the nation's economy, particularly in terms of export sales and related employment.

Exports, of course, are extremely important to the U.S. aerospace industry and admittedly have contributed to the economic stability of the industry. In turn, aerospace companies have had a favorable influence on vital sectors of the national economy. However, the extent to which a special category of exports, i.e., military, has made positive contributions either to specific aerospace companies or to the industry in the aggregate is difficult to ascertain.

Much of the data necessary for any economic assessment along these lines is proprietary in nature and is therefore not readily available. Furthermore, it is difficult—indeed, sometimes impossible—to separate out production figures as they relate to the general category of military exports. Production lines depend on total sales (domestic and foreign) and not exclusively on military exports; still further, the relationship between foreign demand and production activity varies tremendously depending on the military program being assessed.

In spite of these caveats, the Aerospace Research Center has attempted to assess the economic impact of military programs or more specifically to measure the effect which export demand has on the aerospace industry.

While most of the data presented in this report are drawn from public sources, the impact on the aerospace industry is also based on aggregated proprietary information provided by AIA member companies. The data base includes specific information on nine representative military programs which encompass the manufacture of aircraft, missiles, avionics, helicopters and other products of the industry. From this information, the importance of military exports, particularly in terms of the relationship between those exports and significant economic factors in the company profile, can at least be tentatively measured. These factors include federal corporate tax payments and profit levels and appear in the appendix.

The aggregate numbers presented in the appendix are based on averaged program life; the numbers are not equivalent to an overall real life financial status report of the aerospace industry.

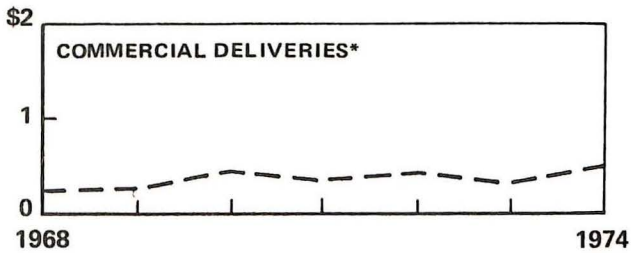
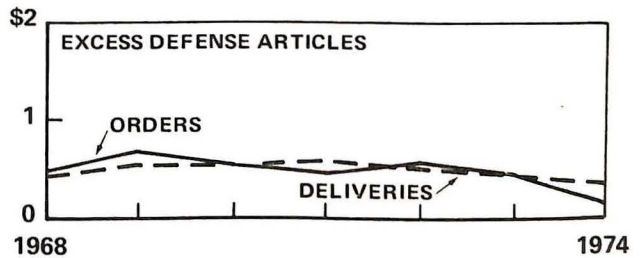
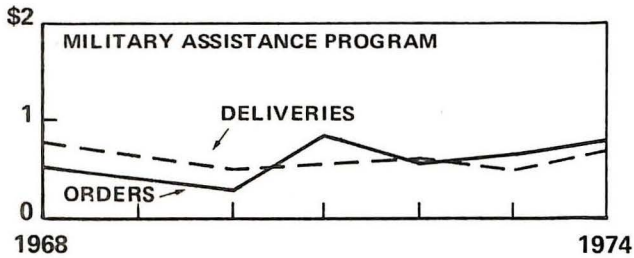
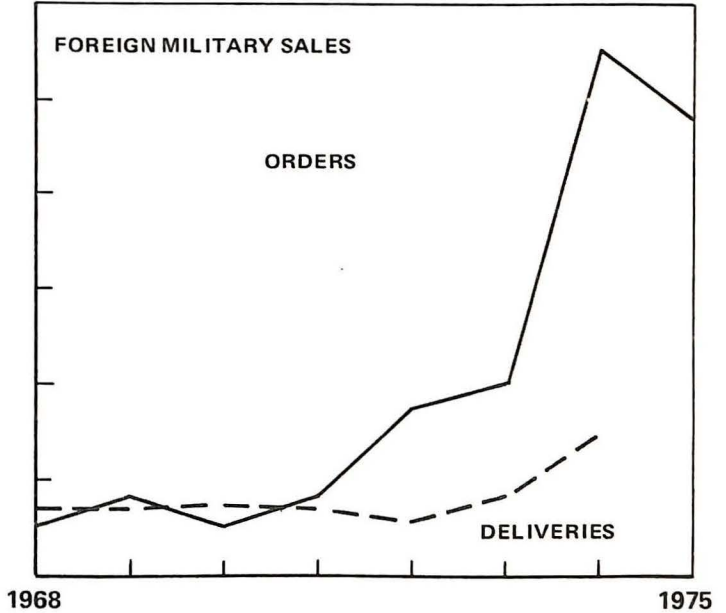
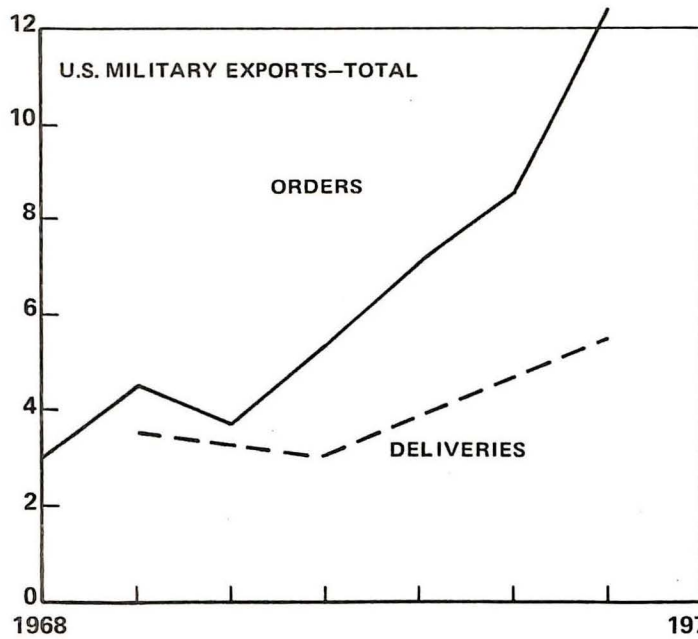
As indicated, however, the majority of the attached tables and charts have been drawn either from previously published sources or from newly formulated data provided by government agencies. Along with the text, they represent, for the most part, an overview of U.S. military exports; the tables and charts also highlight the many interwoven economic factors which need to be considered in any discussion on such exports.

One final note: In order to clarify the usual confusion regarding data on U.S. military exports, it is necessary to point out that the category of military exports is a genre that includes commercial military exports (company to government), Foreign Military Sales, articles shipped under the Military Assistance Program, Excess Defense Articles and Military Assistance—Service Funded. Furthermore, it is important to note whether or not the data presented are in terms of *orders* or *deliveries*. Chart 1, besides providing a useful overview of the data available regarding total military exports since 1968, clearly underscores the significant disparity between orders and deliveries.

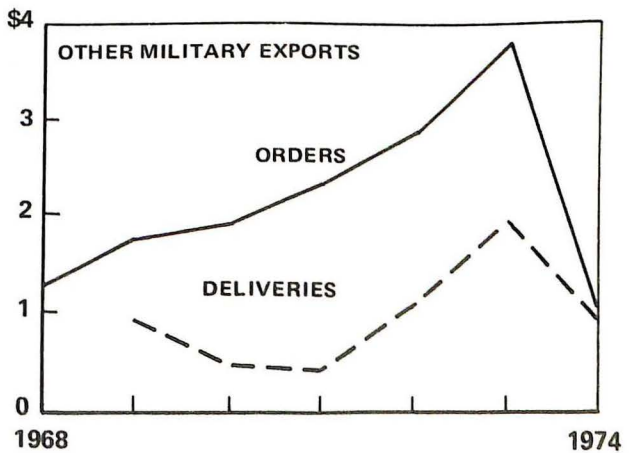
¹These figures do not include commercial orders as the data is not available.

Chart 1

UNITED STATES MILITARY EXPORTS
Fiscal Years 1968-1974
(Billions of Dollars)



*ORDERS NOT AVAILABLE FOR
COMMERCIAL MILITARY EXPORTS.



Sources: U.S. Departments of Defense and Commerce.

UNITED STATES MILITARY EXPORTS 1968-1974

ORDERS

Given press and media reports that Foreign Military Sales (FMS) have "hit a 25-year high" of nearly \$11 billion, *it is important to note that the figures are for military export orders and not for military export deliveries.* To be sure, FMS represents the largest dollar figure out of the available data on total U.S. military export orders. However, what is more important is the better than 1200 percent increase in FMS since 1968. This rapid growth in orders rather than the total dollar

value is most significant, and it is this rate of growth which has alarmed certain members of Congress and which in turn has given rise to public consternation.

Unfortunately, corresponding data on commercial military sales orders is not available for comparison with FMS growth trends. On the other hand, the figures for total military export orders (excluding commercial) grew by more than 300 percent from 1968 to 1974, ranging from \$3.1 billion to \$12.7 billion in that time frame. This indicates that other methods of Military Exports were either declining in dollar value or were remaining somewhat static. An examination of the data shows that the Military Assistance Program (MAP) has hovered near \$600 million throughout the seven year time frame, although it declined in

Table 1

UNITED STATES MILITARY EXPORT ORDERS Fiscal Years 1968-1975 (Millions of Dollars)

Year	Military Export Orders					
	TOTAL*	Foreign Military Sales	Military Assistance Program	Excess Defense Articles	Commercial	Other
1968	\$ 3,141	\$ 805	\$ 597	\$ 497	\$ na	\$ 1,242
1969	4,385	1,558	454	647	na	1,726
1970	3,719	922	382	535	na	1,880
1971	5,203	1,644	762	477	na	2,320
1972	7,252	3,272	549	584	na	2,847
1973	8,689	3,866	593	420	na	3,810
1974	12,707	10,809	789	96	na	1,013
1975	na	9,511	na	na	na	na

Source: Departments of Defense and Commerce

NOTE: All FY 1974 military export orders *except* for Foreign Military Sales orders are preliminary and subject to correction. FY 1975 Foreign Military Sales orders are preliminary.

na Not Available.

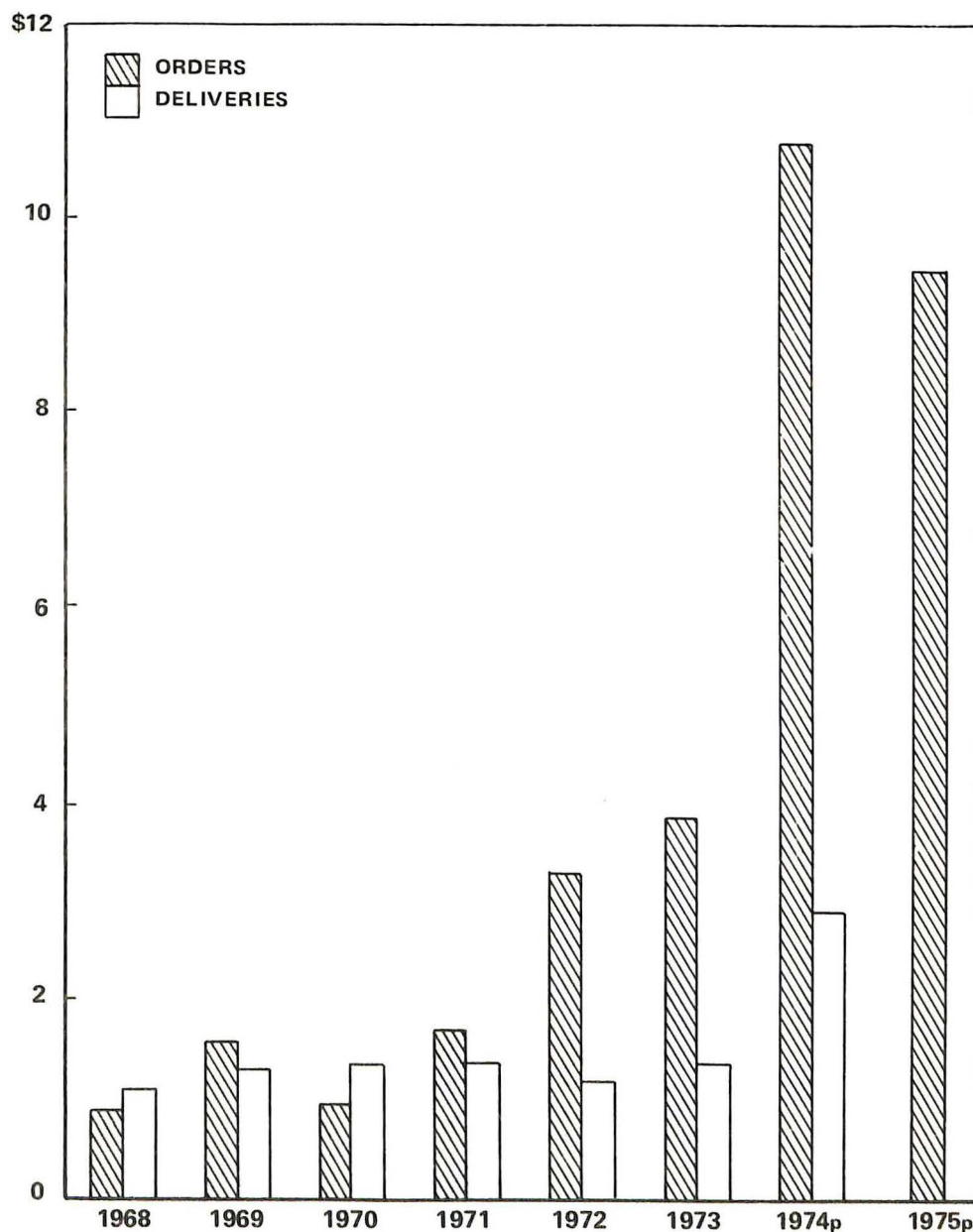
* TOTAL does not include commercial military export orders.

970 to less than \$400 million and approached 800 million during 1974.

The other subcategories reveal a rather precipitous decline. The export of Excess Defense Articles which generally range near the \$500 mill-

ion mark dropped to \$96 million during 1974. Military Assistance—Service Funded (MASF) declined by nearly \$3 billion from \$3.8 billion in 1973 to \$1.0 billion in 1974.

Chart 2
UNITED STATES FOREIGN MILITARY SALES
Orders 1968–1975
Deliveries 1968–1974
(Billions of Dollars)



Source: U.S. Department of Defense and Commerce.
p Preliminary data, subject to revision.

DELIVERIES

As mentioned at the outset, data on deliveries differs substantially from military export orders. Deliveries in 1974 were considerably less than half the dollar volume of orders received during the same year. This indicates two important facts. First, the long lead time needed to fill order requests; second, the existing range of controls available to the U.S. Government for preventing rapid arms build-ups which might run contrary to either foreign policy objectives or national security interests. In a word, orders may or may not result in delivery and delivery contracts can be aborted—if necessary—through the licensing and other control factors afforded by existing legislation.

Totals for all categories were estimated at \$5.4 billion with Foreign Military Sales the clear leader accounting for approximately \$3 billion in deliveries. This is more than double the previous year's figure of \$1.3 billion and represents 55 percent of the total value of all deliveries. Articles shipped as part of the Military Assistance Program increased in 1974 by nearly \$200 million over 1973, from \$520 million to \$700 million. The total in this category, however, indicates a return to the 1968 level which was \$792 million.

Available figures for commercial military exports delivered during the time frame under investigation show that this category ranked fourth out of a total of five. The value of commercial military exports only slightly exceeded \$500 million (\$502 million) in 1974, although this was nearly twice the value of the 1968 figure of \$257 million.

Excess Defense Articles delivered were down slightly in 1974 continuing a three-year decline; from a high of \$560 million in 1971, Excess Defense Articles exported reached a low of \$307 million in 1974. This is the lowest amount for any year during the 1968-1974 period.

The remaining deliveries, classified as "other", suffered the most serious decline, registering a \$1 billion decrease from \$1.9 billion in 1973 to \$0.9 billion in 1974.

Total deliveries of U.S. military exports show a steady growth pattern for the 1970's with only a

slight up and down movement from 1968 through 1972. Once again, the leading factor in this growth pattern was the Foreign Military Sales category which increased by nearly 200 percent during the 1968-1974 period.

Significantly, a different picture emerges when the totals are given in constant (1968) dollars (Table 2). While the general trend lines remain the same, the dollar increases are substantially different. The total value of Military Export Deliveries is nearly \$1.5 billion less when expressed in constant dollars. Also, the growth in Foreign Military Sales is less dramatic, showing only half the percentage increase reflected in the current dollar figures (100 percent versus 200 percent). Foreign Military Sales still account for over half of the total value of deliveries, however, with \$2.2 billion out of \$4 billion during 1974 on a constant dollar basis.

Table 2

UNITED STATES MILITARY EXPORT DELIVERIES

Fiscal Years 1968-1975

(Millions of Dollars)

Year	Military Export Deliveries					
	TOTAL *	Foreign Military Sales	Military Assistance Program	Excess Defense Articles	Commercial	Other
Current Dollars						
1968	\$ na	\$ 1,052	\$ 792	\$ 443	\$ 257	\$ na
1969	3,591	1,228	653	529	261	920
1970	3,307	1,325	537	511	438	496
1971	3,247	1,327	560	560	396	404
1972	3,740	1,186	560	555	424	1,015
1973	4,560	1,385	520	377	362	1,916
1974	5,371	2,936	700	307	502	926
1975	na	na	na	na	na	na
1968 Dollars						
1968	\$ na	\$ 1,052	\$ 792	\$ 443	\$ 257	na
1969	3,439	1,176	625	507	250	881
1970	3,011	1,207	489	465	399	451
1971	2,816	1,151	486	486	343	350
1972	3,121	990	467	463	354	847
1973	3,641	1,106	415	301	289	1,530
1974	3,971	2,171	518	227	371	684
1975	na	na	na	na	na	na

Source: Departments of Defense and Commerce

* Data available on calendar year basis, converted to fiscal years.

PRODUCT CATEGORY

Nearly \$53 billion worth of goods and services have been *delivered* under the Foreign Military Sales and Military Assistance Programs since their inception. The procurement of goods accounts for all but \$10.3 billion. Total procurement figures show \$14 billion in Foreign Military Sales and nearly \$29 billion in Military Assistance.

Aircraft, vehicles and weapons, and missiles are leading sellers, although communications equip-

ment exceeds the value of missiles delivered through the MAP.

Aircraft accounts for 39 percent of all FMS with a value of \$6.4 billion. In 1974, aircraft deliveries amounted to \$1.4 billion, or nearly half the total for that year.

The leading seller in the MAP category, however, are vehicles and weapons, accounting for \$8.1 billion in deliveries to date. Aircraft was a close second with \$7.2 billion in deliveries. During 1974, both of these items were well below ammunition deliveries which totaled \$232 million for the year in the MAP category.

Table 3
FMS AND MAP DELIVERIES
BY PRODUCT CATEGORY
Through Fiscal Year 1974
(Millions of Dollars)

	FMS Deliveries				MAP Deliveries			
	Cumulative Through 1974		FY 1974		Cumulative Through 1974		FY 1974	
	Value	% of TOTAL	Value	% of TOTAL	Value	% of TOTAL	Value	% of TOTAL
TOTAL	\$16,337	—	\$2,936	—	\$35,641	—	\$700	—
Aircraft	6,376	39.0%	1,384	47.1%	7,207	19.7%	125	17.9%
Missiles	2,022	12.4	225	7.8	1,352	3.7	5	0.7
Ships	517	3.1	44	1.5	1,865	5.1	14	2.0
Vehicles & Weapons	2,055	12.6	304	10.3	8,089	22.1	112	16.0
Ammunition	1,213	7.4	234	8.0	4,872	13.3	232	33.1
Communications Equipment	798	4.9	116	3.9	2,176	5.9	27	3.9
Other Equipment	1,136	7.0	159	5.4	2,972	8.1	43	6.1
Total Procurement	14,117	86.4	2,466	84.0	28,533	77.9	558	79.7
Construction	3	*	—	—	512	1.4	2	0.3
Repair & Rehabilitation	312	1.9	46	1.6	753	2.0	18	2.6
Supply Operations	581	3.6	107	3.6	2,694	7.4	79	11.3
Training	697	4.3	06	3.3	1,563	4.3	18	2.6
Other	627	3.8	221	7.5	2,586	7.0	25	3.5
Total Non-Procurement	2,220	13.6	470	16.0	8,108	22.1	142	20.3

Source: U.S. Department of Defense.
* Less than 0.05 percent.

RECIPIENTS BY REGION AND COUNTRY

An examination of both FMS and MAP data for the years 1968 through 1974 reveals what might be the primary concern of those who oversee the movement of military exports. Consistent with already stated trends, FMS orders greatly exceed MAP orders (Table 4). Totals for the period indicate that FMS orders approximate \$23 billion,

while MAP only slightly exceeds \$4 billion. More importantly, 63 percent of all FMS orders for the period have been placed by Middle East countries; and out of the \$14.5 billion worth of FMS orders from the Middle East, three countries—Iran, Israel and Saudi Arabia—account for \$14.3 billion. These same three countries account for \$14.4 billion of the \$14.7 billion in orders for the combined FMS and MAP categories. This is equiva-

Table 4
TOTAL FMS & MAP ORDERS
 By Region
 Fiscal Years 1968–1974

Region	Millions of Dollars			% of TOTAL		
	FMS	MAP	TOTAL	FMS	MAP	TOTAL
Canada	\$ 352.7	\$ —	\$ 352.7	1.5%	— %	1.3%
Latin America	564.4	116.4	680.8	2.5	2.8	2.5
Europe	5,439.4	772.0	6,221.4	23.8	18.7	23.0
Middle East	14,544.2	194.8	14,739.0	63.6	4.7	54.6
Asia	1,212.6	2,533.9	3,746.5	5.3	61.4	13.9
Oceania	433.9	—	433.9	1.9	—	1.6
Africa	94.2	113.7	207.9	0.4	2.8	0.8
Other	233.1	395.7	628.8	1.0	9.6	2.3
TOTAL	\$22,874.5	\$ 4,126.5	\$27,001.0	100%	100%	100%

Top 5 Customers FMS + MAP		
Country	Value	% of TOTAL
Iran	\$ 7,419.0	27.5%
Israel	3,847.0	14.2
Saudi Arabia	3,085.2	11.4
Germany	2,549.7	9.5
Korea	1,316.3	4.9
Total, Top 5	\$18,217.2	67.5%

Top 5 Customers FMS		
Country	Value	% of TOTAL
Iran	\$ 7,369.1	32.2%
Israel	3,847.0	16.8
Saudi Arabia	3,085.2	13.5
Germany	2,549.7	11.1
Greece	769.5	3.4
Total, Top 5	\$17,620.5	77.0%

Top 5 Customers MAP		
Country	Value	% of TOTAL
Korea	\$1,187.5	28.8%
Khmer Rep.	866.2	21.0
Turkey	563.3	13.6
China (Taiwan)	205.0	5.0
Jordan	138.3	3.3
Total, Top 5	\$2,960.3	71.7%

lent to more than 53 percent of total orders in both categories during the past seven years.

Assuming delivery of all these orders, there will be a significant change in terms of the percentage share claimed by recipient countries over the next decade. In the past (Table 5), the top five customers of U.S. military goods through both FMS and MAP have been Israel, Germany, Iran, the United Kingdom and Korea, accounting for 52 percent of

the total \$14.8 billion in deliveries for the 1968-1974 period.

Again, FMS deliveries, \$10.4 billion, far outweighed the MAP total of \$4.3 billion. Regarding deliveries, Europe was the largest recipient with \$5.5 billion or nearly 37 percent of total deliveries; the Middle East with \$4.1 billion accounted for 28 percent of the total.

Table 5
TOTAL FMS & MAP DELIVERIES
 By Region
 Fiscal Years 1968-1974

Region	Millions of Dollars			% of TOTAL		
	FMS	MAP	TOTAL	FMS	MAP	TOTAL
Canada	\$ 250.1	\$ —	\$ 250.1	2.4%	— %	1.7%
Latin America	317.7	199.0	516.7	3.0	4.6	3.5
Europe	4,419.7	1,032.0	5,451.7	42.3	23.9	36.9
Middle East	3,839.5	220.5	4,060.0	36.8	5.1	27.5
Asia	643.7	2,334.6	2,978.3	6.2	54.0	20.2
Oceania	728.5	—	728.5	7.0	—	4.9
Africa	82.7	128.5	211.2	0.8	3.0	1.5
Other	156.9	407.5	564.4	1.5	9.4	3.8
TOTAL	\$10,438.8	\$ 4,322.1	\$14,760.9	100%	100%	100%

Top 5 Customers FMS + MAP		
Country	Value	% of TOTAL
Israel	\$2,023.0	13.7%
Germany	1,960.1	13.3
Iran	1,419.8	9.6
United Kingdom	1,177.1	8.0
Korea	1,120.4	7.6
Total, Top 5	\$7,700.4	52.2%

Top 5 Customers FMS		
Country	Value	% of TOTAL
Israel	\$2,023.0	19.4%
Germany	1,960.1	18.8
Iran	1,300.0	12.4
United Kingdom	1,177.1	11.3
Australia	660.0	6.3
Total, Top 5	\$7,120.2	68.2%

Top 5 Customers MAP		
Country	Value	% of TOTAL
Korea	\$1,099.4	25.4%
Khmer Rep.	696.2	16.1
Turkey	651.0	15.1
China (Taiwan)	301.9	7.0
Greece	235.9	5.4
Total, Top 5	\$2,984.4	69.0%

ECONOMIC INDICATORS

It is clear that the relationship of military exports (delivered) to the overall U.S. economy is miniscule when shown in conjunction with figures for the Gross National Product (GNP). For the time period under investigation, the total value of military exports has never reached one-half of one percent. Still, other measurements indicate that military exports are a significant feature of not only U.S. defense expenditures but also to the nation's export thrust. (Although the trend line

shows that military exports as a percent of total exports has steadily declined during the past six years, it should be remembered that total exports have grown astronomically since 1968.)

As a percent of national defense expenditures, military exports show a somewhat static relationship (4 to 5 percent) until 1973 when they grew to over 6 percent; in 1974, they grew again to the point where they now approach 7 percent. As a percent of total exports, military exports went from a six-year high of 9.9 percent in 1969 to a low of 6.5 percent in 1974.

Table 6
UNITED STATES MILITARY EXPORTS DELIVERIES
AS A PERCENT OF SELECTED ECONOMIC INDICATORS
Fiscal Years 1968-1974
(Billions of Dollars)

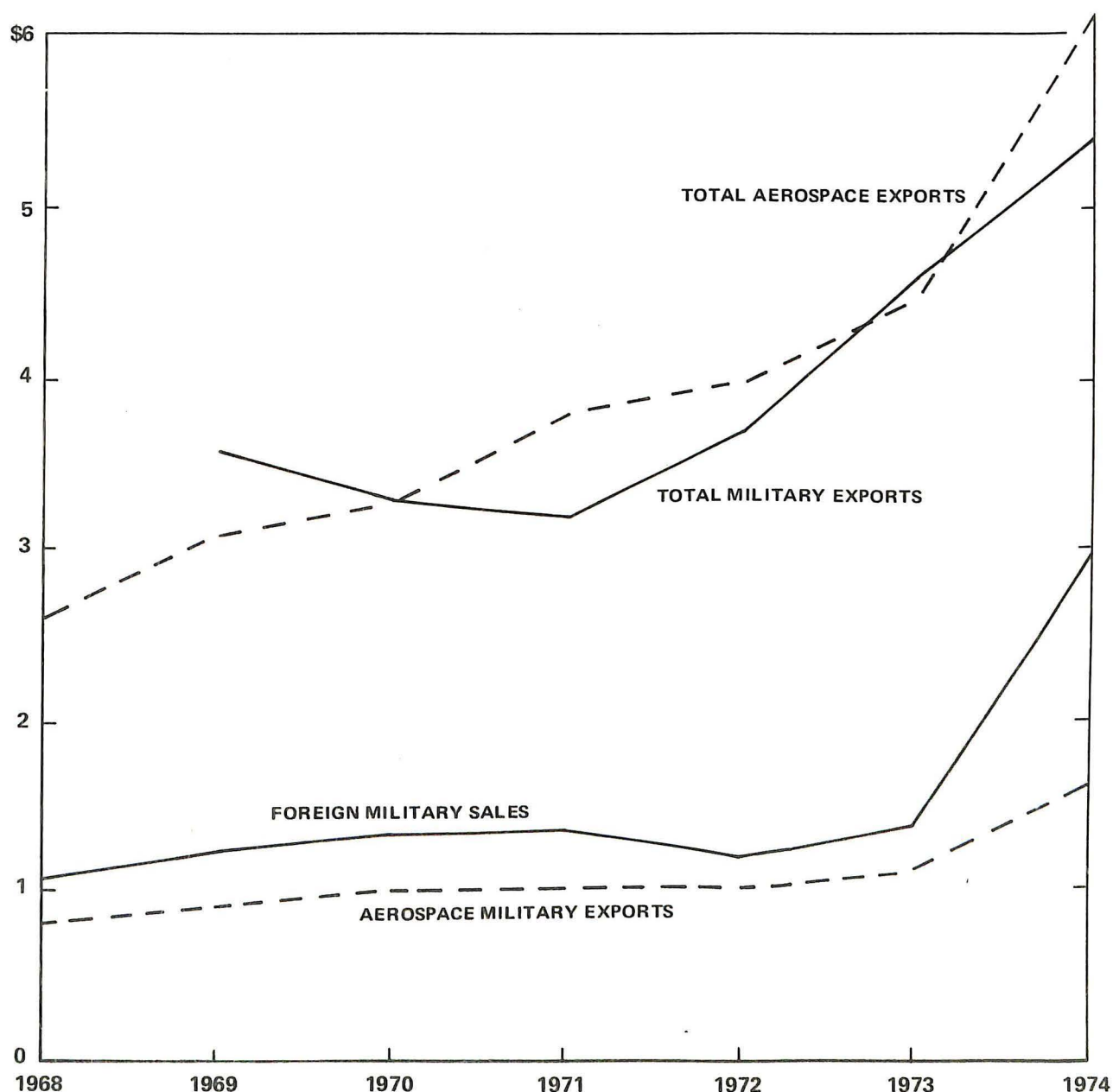
	1968	1969	1970	1971	1972	1973	1974
Gross National Product (GNP)	\$826.0	\$898.3	\$954.6	\$1,012.1	\$1,101.6	\$1,224.1	\$1,348.9
National Defense Expenditures	79.4	80.2	79.3	76.8	77.4	75.1	78.6
Total Exports, Including DOD Shipments	33.0	36.4	39.0	42.4	47.5	61.4	82.5
Total Military Exports As A Percent of:	\$ na	\$ 3.6	\$ 3.3	\$ 3.2	\$ 3.7	\$ 4.6	\$ 5.4 ^E
GNP	na	0.4%	0.3%	0.3%	0.3%	0.4%	0.4%
National Defense Expend.	na	4.5	4.2	4.2	4.8	6.1	6.9
Total Exports	na	9.9	8.5	7.5	7.8	7.5	6.5
Total Aerospace Exports	\$ 2.6	\$ 3.1	\$ 3.3	\$ 3.8	\$ 4.0	\$ 4.5	\$ 6.1
Military Aerospace Exports* As A Percent of:	0.8	0.9	1.0	1.0	1.0	1.1	1.6
Total Military Exports	na	25.0%	30.3%	31.2%	27.0%	23.9%	29.6%
Total Aerospace Exports	30.8%	29.0	30.3	26.3	25.0	24.4	26.2

Sources: GNP and National Defense Expenditures: *The Budget of the U.S. Government*, FY 1976.
Total U.S. Exports and Total Military Exports: U.S. Department of Commerce.
Aerospace Exports: Aerospace Industries Association.
E Estimate.
* Includes estimates for military-related parts and accessories.

The aerospace contribution to total exports is well known, accounting for 7.4 percent of the total. Military aerospace exports which totaled \$1.6 billion in 1974 (twice the dollar value of 1968) accounted for over 26 percent of total aerospace

exports. This is more than 4 percent less than the 1968 share. However, the share of total military exports represented by military aerospace exports remained fairly stable through the past six years, ranging from 24 percent to 31 percent.

Chart 3
UNITED STATES EXPORTS
 Aerospace, Military and FMS
 Fiscal Years 1968-1974
 (Billions of Dollars)



FOREIGN MILITARY EXPORTS

The Soviet Union is clearly the chief competitor with the U.S. in world arms exports, outdistancing its nearest competitor in 1973 (France) by nearly \$2 billion. The Soviet total is still far removed from the U.S. total for the same year—some \$2.0 to \$2.5 billion less. Combined, all four countries—the U.S., Soviet Union, France and the United Kingdom—accounted for an estimated 87 to 92 percent of total world arms exports in that year.

In the case of both France and the United Kingdom, arms exports when measured in terms of total exports are somewhat insignificant. Neither country has surpassed 2 percent of total during the 1968-1974 time frame. The average share for the period is considerably less than 2 percent. Part of this is explained by the tremendous growth in their respective export markets; their growth is similar to that experienced in the U.S.

On the other hand, Soviet involvement in world arms trade has usually exceeded 10 percent of total exports. This is due to both the dollar volume

of arms exports and the smaller total export aggregate.

For approximately the same reasons, the situation is reversed when measured in terms of arms exports as a share of military expenditures. The large Soviet budget in this area converts to smaller percentages devoted to arms exports, although the short term trend shows a steady increase toward 3 percent, nearly twice the 1969 rate.

Total military expenditures are, of course, much less in France and the United Kingdom. As a result, their arms export activities take a larger percentage share of their respective military budgets. France shows 6.1 percent in 1973, while the United Kingdom grew to nearly 4 percent. In neither case is there an apparent trend for the time frame involved. France fluctuated between 2.4 and 7.4 percent for the period. The United Kingdom also experienced some divergence ranging from 1.4 to 3.9 percent from 1968 through 1973.

(NOTE:

Estimates on foreign government activity in the area of military exports presents some difficulties. Dollar figures, especially for the Soviet Union, are hazardous because of the conversion factors. In the case of the Soviet Union, conversion rates are still being revised for previous years. In the case of France and the United Kingdom, recent flexible exchange rates may result in some discrepancies depending on the source of data. At any rate, sophisticated reporting techniques in the

U.S. make it difficult to match or compare U.S. data with that of other countries. This has been done to some extent in a publication by the U.S. Arms Control and Disarmament Agency, but even there, the U.S. data differs from that recently published by the Departments of Defense and State. Therefore, the chart on foreign countries makes no attempt to include the U.S. figures for direct comparison since that would have required using a different and imperfect data base for U.S. military exports and expenditures.)

Table 7

ESTIMATED MILITARY EXPORTS OF SELECTED FOREIGN COUNTRIES
1968-1974
(Millions of U.S. Dollars)

	1968	1969	1970	1971	1972	1973	1974	Gross National Product 1971	Military Expenditures As A Percent of GNP	
									1971	1973
Union of Soviet Socialist Republics										
Total Exports (TE)	\$10,634	\$11,655	\$12,800	\$13,792*	\$16,682	\$21,332	\$27,374	\$580,000	6-10 percent	
Arms Exports	1,372	1,010	1,495	1,488	2,235	2,537	na			
As A Percent of TE	12.9%	8.6%	11.6%	10.8%	13.4%	11.9%	na			
Total Military Expenditures (TME)	60,000	64,000	69,000	74,000	81,000	86,000	na			
Arms Exports As A Percent of TME	2.2%	1.5%	2.1%	2.0%	2.7%	2.9%	na			
France										
Total Exports (TE)	\$12,903	\$15,300	\$18,100	\$20,800	\$26,500	\$36,700	\$46,600	\$164,095	3.87%	3.62%
Arms Exports	181	216	198	154	541	571	na			
As A Percent of TE	1.4%	1.4%	1.0%	0.7%	2.0%	1.5%	na			
Total Military Expenditures (TME)	6,097	6,114	6,004	6,351	7,295	9,339	na			
Arms Exports As A Percent of TME	2.9%	3.5%	3.2%	2.4%	7.4%	6.1%	na			
United Kingdom										
Total Exports (TE)	\$15,443	\$17,614	\$19,400	\$22,300	\$24,300	\$30,500	\$35,900	\$138,513	4.96%	5.00%
Arms Exports	154	197	83	178	311	333	na			
As A Percent of TE	1.0%	1.1%	0.4%	0.7%	1.2%	1.0%	na			
Total Military Expenditures (TME)	5,581	5,504	5,855	6,868	8,182	8,536	na			
Arms Exports As A Percent of TME	2.8%	3.5%	1.4%	2.5%	3.8%	3.9%	na			

Sources: Joint Economic Committee, 93rd U.S. Congress, *Soviet Economic Prospects for The Seventies—A Compendium of Papers*, First Session, June 1973.

U.S. Arms Control and Disarmament Agency, *World Military Expenditures and Arms Trade 1963-1973, 1974*.

Council on International Economic Policy, *International Economic Report of The President, 1975*.

U.S. Department of Commerce, East/West Trade Bureau, Soviet Division; Western European Bureau, Trade Analysis Division.

NOTE: The statistics cover the actual movement of goods during the referenced year and do not include the value of programs, agreements, contracts, or orders which may result in a future transfer of goods.

Values are expressed in current dollars.

* There is some controversy regarding the 1971 export figure and the conversion factor. Total exports were 12,426 million roubles. The figure given above was converted at the prevailing conversion rate from the 1960s, i.e., \$1.11 = 1 rouble. The U.S. Department of Commerce has since revised the factor for 1971, i.e., \$1.21 = 1 rouble. This would make the total \$15,035 million and the percentage of arms exports would decrease to 9.9 percent. From 1971 to the present, the generally accepted rate has been the Department of Commerce figure. Therefore, the three entries from 1971 through 1974 reflect the higher conversion rate.

na Not available.

EMPLOYMENT

The employment impact of export goods is a generally recognized plus in international trade. Besides direct employment, i.e., workers directly involved with the production and shipment of goods as well as subcontractors and suppliers, there is also an indirect factor that needs to be considered. This involves the use of a multiplier

formula² whereby some measure of jobs generated by both the resulting cash flow and necessary adjunct services can be made.

In the area of total military exports, the combined total (direct and indirect) of jobs created by

²Depending on the program and product, the place, the industry, and the tier level, the multiplier may vary from .77 to a factor of 7.0 or higher. Indirect employment in the aerospace industry, however, is calculated on the basis of a multiplier of approximately 1.7 developed by Wharton Econometrics.

Table 8

ESTIMATED EMPLOYMENT IMPACT OF UNITED STATES MILITARY EXPORTS Fiscal Years 1968-1974

	1968	1969	1970	1971	1972	1973	1974
Employment Impact of Total Military Export Deliveries							
TOTAL	N.A.	305,000	267,000	251,000	278,000	324,000	354,000
Direct†	N.A.	113,000	99,000	93,000	103,000	120,000	131,000
Indirect	N.A.	192,000	168,000	158,000	175,000	204,000	223,000
Employment Impact of Foreign Military Sales Deliveries							
TOTAL	94,000	105,000	108,000	103,000	89,000	97,000	194,000
Direct	35,000	39,000	40,000	38,000	33,000	36,000	72,000
Indirect	59,000	66,000	68,000	65,000	56,000	61,000	122,000
Employment Impact of Aerospace Military Export Deliveries*							
TOTAL	70,000	76,000	81,000	76,000	76,000	78,000	103,000
Direct	26,000	28,000	30,000	28,000	28,000	29,000	38,000
Indirect	44,000	48,000	51,000	48,000	48,000	49,000	65,000

Source: AIA estimates based on company reports.

NOTE: Employment Impact of Military Exports is estimated as follows:

- (1) The value of deliveries has been deflated to constant 1968 dollars, using the GNP deflator.
- (2) Direct employment has been estimated at 33,000 per \$1 billion (1968 dollars) of defense deliveries, based on survey results from selected defense manufacturers.
- (3) The deflated value of deliveries times 33,000 per \$1 billion of deliveries equals the estimated direct employment impact of military exports.
- (4) The indirect employment is arrived at by using the multiplier of approximately 1.7 developed by Wharton Econometrics.
- (5) The sum of the direct and indirect employment is the estimated employment impact of military exports.

* Includes but is not limited to aerospace products sold under Foreign Military Sales.

† Direct employment includes company plus subcontractor and suppliers.

N.A. Not Available.

military export deliveries was over 350,000 in 1974. This represents an increase of nearly 50,000 jobs since 1969. The total employment impact for the category of Foreign Military Sales more than doubled from 94,000 in 1968 to 194,000 in 1974. Direct employment accounted for 72,000 of those jobs.

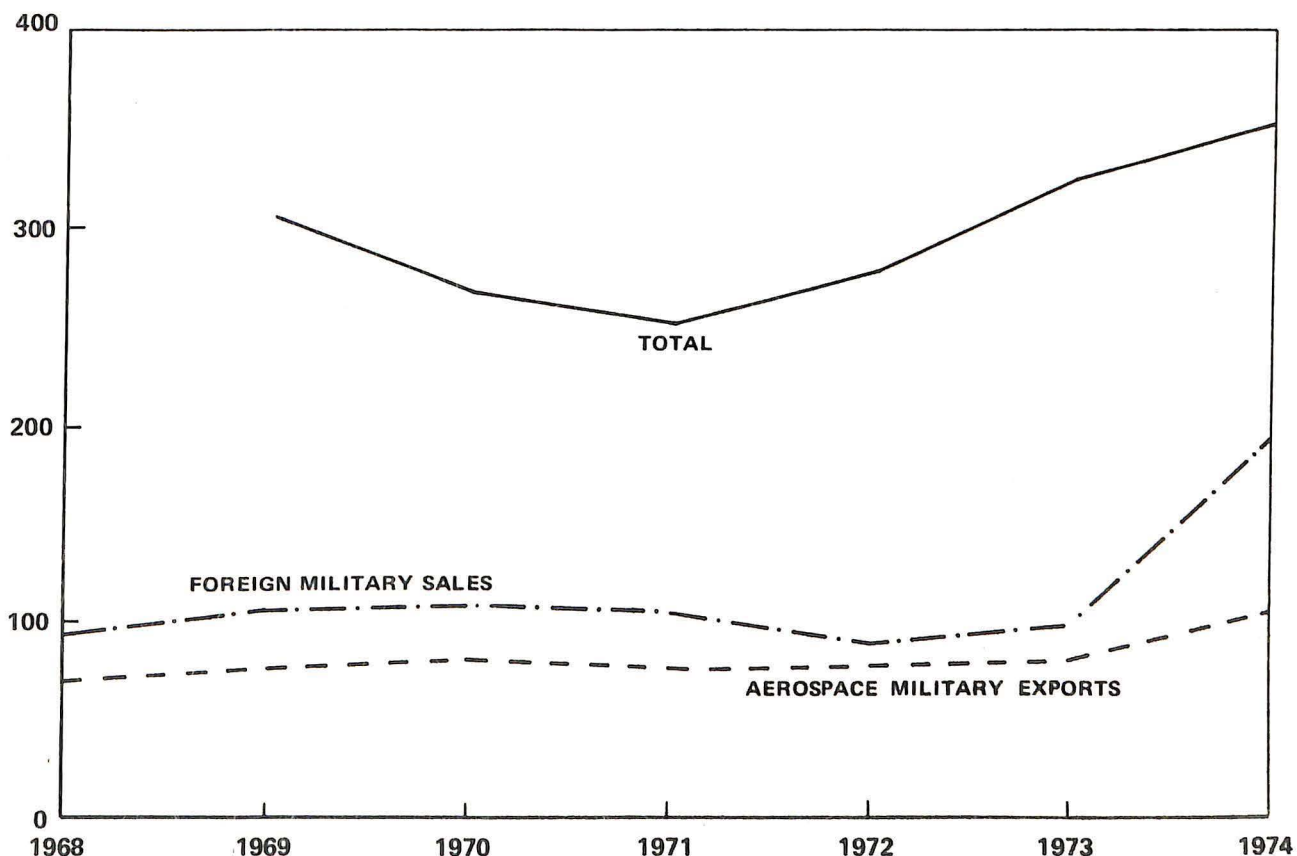
Statistics also show that nearly 103,000 jobs resulted from aerospace military export deliveries in 1974. In this category, direct employment accounted for 38,000 workers while indirect employment approached 65,000. The category includes but is not limited to aerospace products sold under Foreign Military Sales.

Chart 4

ESTIMATED EMPLOYMENT IMPACT OF UNITED STATES MILITARY EXPORTS

Fiscal Years 1968-1974

(Thousands of Persons)



Source: AIA estimates.

TAX CONTRIBUTIONS

Estimates for both the corporate and personal federal income taxes were arrived at in the following way: Corporate measurements were calculated by using the allowances for federal taxes as a percent of sales as reported by the Federal Trade Commission (FTC) for the aerospace industry. Personal federal income tax estimates involved the use of the average federal income tax contribution by salary level as reported in the *Statistical Abstract of the United States*, 1974. Actual taxes paid under military export schedules may differ substantially from the above estimates. The

existence of the Domestic International Sales Corporation (DISC) allows for distortions in the formula particularly in regard to fixed or single year figures.

Personal federal income taxes, resulting from total military export deliveries during 1974 exceeded \$1 billion; over half of this can be traced to the Foreign Military Sales subcategory. Corporate federal income taxes for the same year in the area of military export deliveries measured nearly \$100 million; again over half of this figure came from Foreign Military Sales which contributed \$54 million in 1974 or nearly two and one-half times the 1968 amount.

Table 9
ESTIMATED UNITED STATES TAX CONTRIBUTION
BASED ON MILITARY EXPORT DELIVERIES
Fiscal Years 1968-1974
(Millions of Dollars)

	1968	1969	1970	1971	1972	1973	1974
Corporate Federal Income Taxes ^a							
Total Military Export Deliveries	\$ na	\$ 85	\$ 49	\$ 46	\$ 74	\$ 92	\$ 99
FMS Deliveries	22	29	20	19	23	28	54
Personal Federal Income Taxes ^b							
Total Military Export Deliveries	na	621	623	582	706	874	1,012
FMS Deliveries	175	214	248	237	221	267	552

^aFederal Trade Commission, "Quarterly Financial Report for Manufacturing Corporations."
^bDepartment of Commerce, "Statistical Abstract of the United States, 1974."

APPENDIX

Several AIA member companies participated in an Aerospace Research Center survey on U.S. military exports. From the survey results, the Center selected nine representative military programs and measured the aggregate economic performance of the programs in terms of average tax and profit levels (Tables A-1 and A-2). Both of these determinations depend, of course, on program length.

The Center chose 1974 as a benchmark year since that was the first year in which both orders

for and deliveries of military exports escalated significantly. It was also the year which allowed for the broadest range of program life for the largest number of programs.

The evidence (Table A-3) shows that the nine programs, *in 1974 alone*, yielded over \$36 million in R&D recoupment to the government. Program related corporate taxes accounted for an additional \$95.7 million. When added to the approximate personal taxes paid (on wages), the net savings and tax contributions to the U.S. government on items delivered under the nine programs during 1974 totaled over \$200 million.

Table A-1

FEDERAL INCOME TAXES AND NET PROFITS

As a Percent of Deliveries
By Program Age Ranges
Nine Military Programs
For One Year: 1974

Number of Programs	Age of Program in 1974	Federal Income Taxes As a Percent of Deliveries	Net Profit After Taxes As a Percent of Deliveries*
3	< 9 years	$\bar{X}_1 = 3.3\%$	$\bar{Y}_1 = 3.6\%$
3	9-12 years	$\bar{X}_2 = 5.8$	$\bar{Y}_2 = 6.3$
3	> 12 years	$\bar{X}_3 = 7.9$	$\bar{Y}_3 = 8.6$
9	$\bar{X} = 11.5$ years	$\bar{X} = 5.7\%$	$\bar{Y} = 6.2\%$

\bar{X} , \bar{Y} = Mean (arithmetic average).

* Estimated Net Profit After Taxes but before allowance for extraordinary items.

Table A-2

NINE MILITARY PROGRAMS
Federal Income Taxes
As a Percent of Deliveries

Age of Program (Years)	Inception of Program thru 1974	1974 Only
< 9 years	$\bar{X}_1 = 2.6\%$	$\bar{Y}_1 = 3.3\%$
9-12 years	$\bar{X}_2 = 2.4$	$\bar{Y}_2 = 5.8$
> 12 years	$\bar{X}_3 = 3.3$	$\bar{Y}_3 = 7.9$
$\bar{X} = 11.5$ years	$\bar{X} = 2.8\%$	$\bar{Y} = 5.7\%$

\bar{X}, \bar{Y} = Mean (arithmetic average).

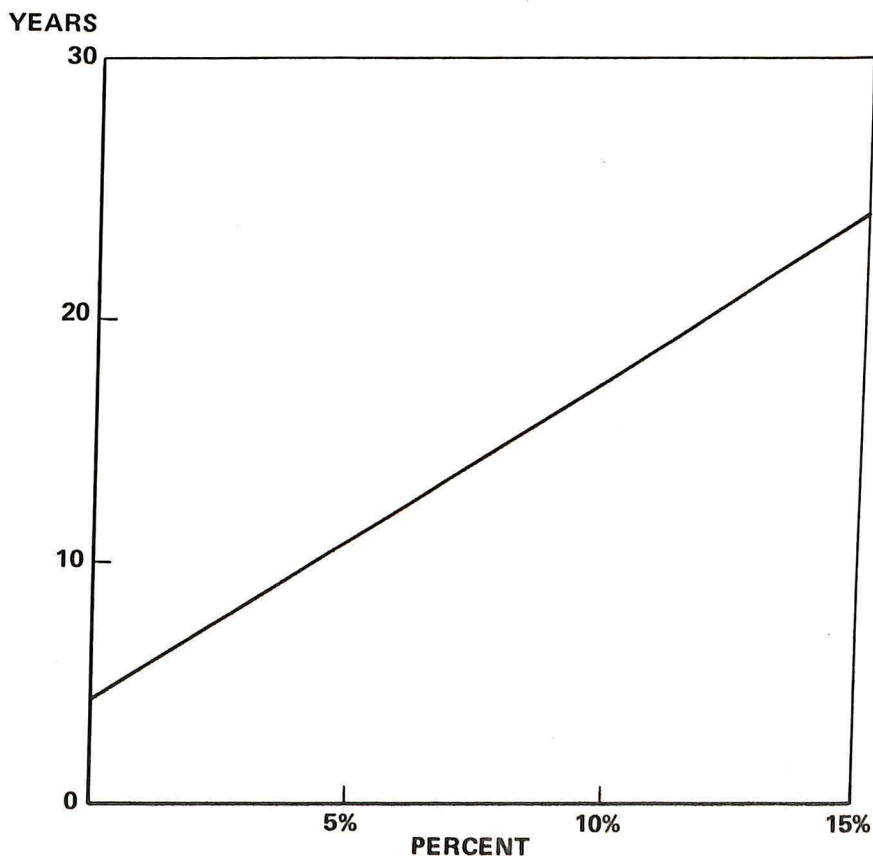
Table A-3

NET COST TO U.S. GOVERNMENT
Nine Military Programs
For 1974 Only
(Thousands of Dollars)

Deliveries	\$ 627,544
Less R&D Recoupment to U.S. Government	- 36,325
Less Federal Corporate Tax	- 95,669
Less Federal Personal Tax	- 73,211
NET COST	\$ 422,339

Chart A-1

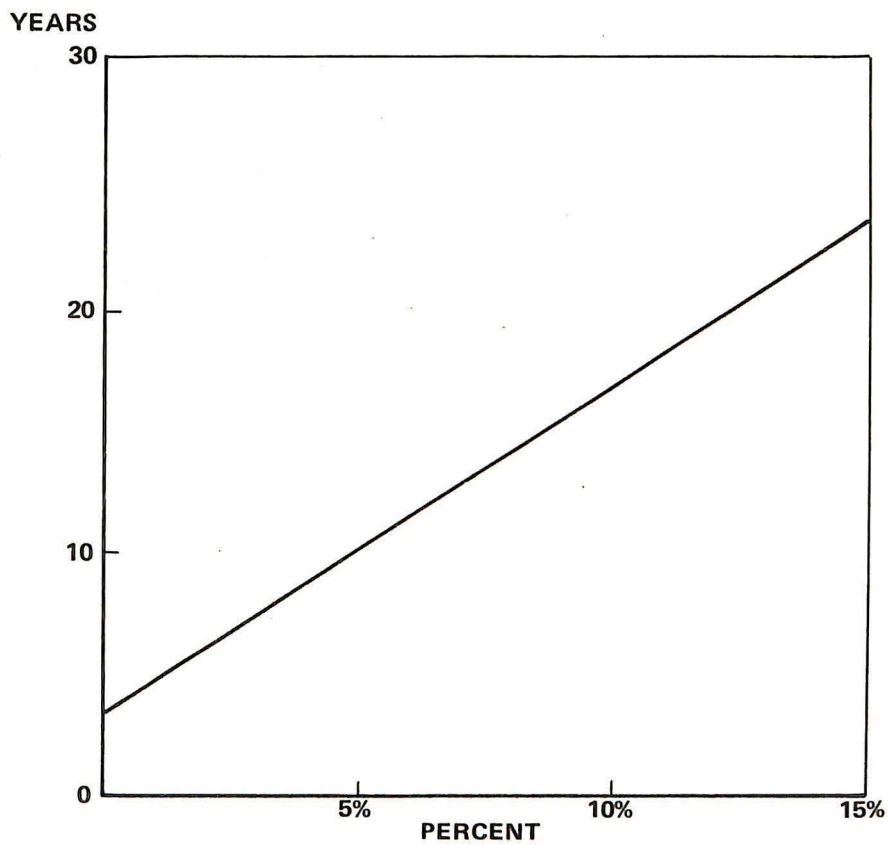
NINE MILITARY PROGRAMS
Federal Income Taxes As a Percent of Deliveries
1974
By Age of Program



$\bar{X} = 11.5$ YEARS, 5.7%

Chart A-2

NINE MILITARY PROGRAMS
Net Profit After Taxes As a Percent of Deliveries
1974
By Age of Program



$\bar{X} = 11.5$ YEARS, 6.2%