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DEFENSE EXPENDITURES

In 1975, the nations of the world expended \$375 billion on military products and services of all types, according to estimates made by the United States Arms Control and Disarmament Agency (ACDA).¹ The fraction of total international military-oriented expenditure which found its way into international commerce was only a small fraction of the total, \$10 billion, \$4.4 billion of which originated in the United States making it the largest contributor to the international commerce in arms. Thirty-eight percent (\$1.67 billion) went for military hardware and the balance was allocated to training and support.

The ability to produce military products and services is limited to a few nations, particularly for sophisticated high unit-cost items such as aircraft, armored fighting vehicles (particularly tanks), and communication equipment. These three categories account for the most important hardware components of the international commerce in arms. In addition to the United States, those with a capability to produce arms for export are the major NATO nations (the UK, West Germany,

¹U.S. ACDA, World Arms Expenditure, 1975, (Washington: Government Printing Office, 1976).

NOTE: Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

Italy, etc.), Japan, the Soviet Union, and to a lesser extent, Communist China.¹

The capability to produce small arms is more widely distributed with many medium-sized nations with a strong industrial base now producing weapons, and in many cases for export. Brazil produces the Armalite AR-18 for export, a high quality automatic rifle developed in the United States and produced in Brazil on license. In the future, Brazil has a capability to become an important arms exporter. Israel has long had a well-developed production base for small arms to support its own needs and now produces high quality major weapons systems for the export market.² Many other less well-known industrial or semi-industrial nations have a significant potential to produce weapons for export. Spain, Argentina, South Africa, Singapore, Korea, India, and Indonesia all have operating production lines for arms production; and among those who produce for export, the primary markets they serve are in the "third world."

Nevertheless, arms sales abroad by the United States have served to develop a debate about the course of U.S. foreign policy that is not likely to be resolved in the near future because of the manner in which several nations have become almost totally dependent on the United States for their supply of arms. The high investment cost incurred by the legacy of American arms supplied over a period of many years makes it more and more difficult for other nations to develop alternative sources of supply. The most significant nations who face this problem are Iran, Israel, Korea, Saudi Arabia, Turkey, and Greece.

Another dimension beyond the political-military and diplomatic

¹Communist China has never been a major exporter of high unit-value weapon systems. Most exports have consisted of small arms such as a copy of the Soviet AK-47 assault rifle, medium and heavy machine guns, mortars, and a Chinese version of the Soviet T-54/55 series tank, the T-59. North Korea, North Vietnam, and Pathet Lao forces have been the primary recipients. The Communist Chinese have exported small arms to many indigenous Communist and terrorist organizations outside of the Soviet bloc. For an indication of Chinese weapons sales and grants, see the International Institute for Strategic Studies, The Military Balance, 1976-77, (London: IISS, 1976).

²Israel now produces a modern multipurpose aircraft, the Kfir which is similar in performance to the U.S. F-4 Phantom II, although its range and payload are somewhat less than its American "model." Despite claims of "piracy" of U.S. developments, the Israeli aircraft appear to be well designed to suit the requirements not served by the major arms producers. Thus, the Israelis were able to win a large order of 50 aircraft for the South African Air Force in 1976 during Prime Minister Vorster's visit to Israel.

issues involved is that of the economic impact of foreign arms sales and its domestic counterpart, defense expenditure. As the industrial capacity of the nations of the world improves, the competition for foreign weapons sales will become more intense if the United States makes the political decision to remain in the market. The most visible property of expenditure for defense by our own government, and expenditure in the U.S. for products and services, is employment.

The United States has achieved a dominant position in the international arms market for a number of reasons. The large domestic market served by American industry makes it possible to produce military hardware at lower cost than can be produced elsewhere, particularly in complex military systems such as aircraft and communications systems. The arms competition with the Soviet Union has led to an emphasis on highly advanced, manpower-efficient military technology compared with the products produced by the other major arms trading nations of the world. One of the significant dimensions of the downturn in domestic defense expenditure since the mid-1960's has been the growth in the importance of foreign military sales to employment in defense-related industries.¹

HOW DEFENSE EXPENDITURE AND FOREIGN MILITARY SALES INFLUENCE EMPLOYMENT

The effect of defense expenditure and foreign military sales on domestic American employment is not vulnerable to precise calculation; hence the vast controversy which surrounds the subject in the news media, the Congress, and among academic specialists. There are four important "channels" by which such expenditure can influence the level of employment, each of which is subject to varying degrees of precision in measurement.

DIRECT IMPACT

The direct impact of defense expenditure within the United States or foreign military sales by a foreign purchaser relates to the highly visible and easily measurable impact on local income and employment resulting from the expenditure in the

¹Since 1964, constant dollar defense outlays have fallen nearly ten percent in constant Fiscal Year 1977 dollars. However, due to the introduction of the volunteer concept for the armed forces in the early 1970's, personnel-related expenditures have grown rapidly, displacing expenditure on military hardware, research and development, and operation and maintenance. Thus, defense-related industry has been severely affected by reductions in defense expenditure and increasingly interested in foreign sales outlets for its products.

hands of those who directly participate in the process of producing the military product or service.

INDIRECT IMPACT

The indirect impact of defense and foreign military expenditures in the United States refers to the goods and services purchased by the direct producer from other vendors. The measurement problems of indirect expenditure are somewhat more difficult than with direct expenditure because of the difficulty in assigning employment effects to subcontractors and other vendors. Nevertheless, it is feasible to construct defensible estimates of the employment impact of indirect defense and foreign military expenditures in the United States.

INDUCED IMPACT

The induced impact of defense and foreign military expenditure is considerably more difficult to measure because of the complex character of our economy. The second and third order impact of an initial injection of expenditure becomes ever more difficult to trace as the "trail" of expenditure moves away from suppliers to supermarkets, barber shops, automobile dealers and the host of other units in our economic structure who receive some benefit from such expenditure.

DYNAMIC OR STRUCTURAL IMPACT

Perhaps the most difficult aspect of defense and foreign military expenditure from a measurement perspective is the impact such expenditures have on the structure of a local economy over time. Typically, such expenditure will lead to an increase in productive capacity through expansion and modernization of existing industry. In addition, new business organizations will develop to meet the requirements of the local defense-related industry. This type of change occurs slowly in comparison to the other types of impacts discussed here and yet is likely to contribute more to the growth of employment and income than would be produced by the initial expenditure. Too often in discussions of the economic effects of defense expenditure, the contribution of dynamic or structural change is ignored.¹

¹For a comprehensive discussion of these factors, see J.H. Cumberland in "Dimensions of the Impact of Reduced Military Expenditure in Industries, Regions, and Communities," in The Economic Consequences of Reduced Military Spending, B. Udis (ed.), (Lexington: D.C. Heath Co., 1973), pp. 79-147.

THE EVIDENCE ON THE RELATIONSHIP BETWEEN EMPLOYMENT AND DEFENSE EXPENDITURE

There have been a number of academic studies of the relationship between defense expenditure and employment. Some have been done on a regional basis while others have been economy-side studies. The general conclusion drawn by most of the studies has been that defense expenditure is "neutral" with respect to employment-generating activity compared with other forms of government expenditure, although there is important evidence supporting the view that defense expenditure creates more jobs in certain regions of the country than do alternative government programs.

One major regional study of the Philadelphia, Pennsylvania area in 1968 examined the employment impact of defense expenditure in the region compared to an equivalent expenditure on a variety of programs relating to low-income housing construction and aid to elementary, secondary, and higher education.¹ In the year in which the study was made, direct defense expenditures in the Philadelphia region by the Department of Defense and defense-related agencies was \$284 million. The expenditures resulted in indirect expenditures of \$1.283 billion in the region (this figure includes induced expenditure as well).

The study found that Department of Defense expenditures were more efficient in generating employment than were equivalent expenditure levels on other governmental programs; indirect and induced expenditure was \$45 million higher in the defense expenditure case than in the non-defense governmental expenditure case. Philadelphia has a modest but balanced industrial structure that made it possible for it to efficiently utilize the indirect and induced expenditure within the region to increase local employment.

The Congressional Budget Office examined the issue of the effects of defense expenditure on employment at the request of the Committee on Armed Services of the U.S. House of Representatives. The results of the CBO review were to debunk the journalistic efforts to "prove" that defense expenditure was an inefficient means of generating employment. In testimony before the Committee on Armed Services, CBO Director Alice Rivlin

¹W. Isard and T.W. Langford, Jr., "Impact of Vietnam War Expenditures on the Philadelphia Economy," The Regional Science Association, Vol. 23, 1969, p. 217.

found that defense expenditure was indistinguishable from other forms of government expenditure from the perspective of producing employment.¹

EMPLOYMENT AND FOREIGN MILITARY SALES

Many of the issues raised with respect to the employment impact of foreign military sales pertain to the problem with respect to Department of Defense expenditures. However, DoD expenditures can be controlled by domestic U.S. policy decisions; purchase decisions by sovereign foreign nations cannot be controlled by the U.S. government directly and thus may serve ends contrary to U.S. policy. Therefore, the United States has had legislation for the control of the export of munitions for many years. The definition of "munitions" has long exceeded the common understanding of the term and has come to mean virtually any equipment or service sold to a foreign purchaser which has contemporary military application. Thus, the sales of sonobouys, electronic devices employed in search and rescue at sea but which also have military application for anti-submarine warfare, are denied to South Africa; handguns are denied to Lebanon; certain types of radars cannot be sold to Sweden, etc. There is a formal mechanism that has been in place for many years as the interagency channel for the decision-making process for the sale of goods and services on the "munitions list." This agency, the Munitions Control Board, is the principal arbiter and decision-maker for most foreign military sales from a policy perspective.

More recently, an avalanche of literature has raised the question of whether or not the United States should sell arms

¹ See the testimony of Dr. Rivlin in Hearings on Military Posture and HR 11500 DoD Authorization for Appropriations for FY 77 before the Committee on Armed Services, House of Representatives, 94th Congress, 2nd Session, Part 1, pp. 1185-7. One study done in the late 1960's but not published until 1973 found a weak but inverse correlation between defense expenditure and economic growth. See Appendix 3-G in E. Benoit, Defense and Economic Growth in Developing Countries, (Lexington: D.C. Heath & Co., 1973), pp. 147-8. This study focused on the less developed nations of the world but did a brief survey of 19 developed countries. The data did not extend beyond 1965, however, and did not specifically attempt to measure the effect of defense expenditure on employment. It is the only technically serious study to dissent from the general view of a favorable or neutral relationship between defense expenditure and employment.

abroad at all, or at least to any non-NATO nation.¹ This is an issue which cannot be resolved satisfactorily by a review of the decision-making of the Munitions Control Board; fundamental national policy is involved because foreign military sales form an integral part of American diplomacy. The sale of arms to a foreign purchaser frequently determines the ability of that nation to resist foreign aggression but also binds the purchaser to the supplier because of the total dependence on the availability of spare parts. For example, when the Soviet Union ceased resupplying the Egyptian Armed Forces after the 1973 War, within a matter of months, the Egyptian forces could not operate in any environment. Egyptian supply officers were attempting to purchase spare parts for grounded MIG-21 aircraft from China and India; Egyptian tanks could not operate for want of spare parts which only the Soviet Union and a few satellite nations could supply.

Until 1972, foreign military sales could be ignored as an important economic issue. Most U.S. military assistance was grant aid with the NATO nations, South Korea, the Republic of China, the Republic of Vietnam, and Israel as the most significant recipients. The aid normally consisted of obsolete or obsolescent U.S. military equipment with a low economic value. There was little direct impact on the U.S. production base for military equipment because much of the equipment available was surplus from the Korean War and World War II. The confluence of the Vietnamization program in the Republic of Vietnam where more first-line U.S. equipment was sent, the 1973 War where Israel required a vast increase in the quantity of U.S. military aid, and the new-found wealth of Iran and Saudi Arabia caused an explosion of the foreign military sales market. Sales quickly grew to \$10 billion with deliveries of over \$4 billion in 1976 to foreign purchasers.

The foreign military sales market became a significant factor in the reduction of costs to the Department of Defense as the research and development and overhead cost of producing first-

¹ For example, M. T. Klare, "The Political Economy of Arms Sales," Bulletin of the Atomic Scientists, November, 1976; E. C. Luck, "Putting the Brakes on the Arms Traffic," Interdependent, May, 1976; and even some of the rhetoric of the 1976 Democratic Party's national platform are representative of the genre.

line U.S. weapons could be shared with foreign purchasers.¹ According to a Congressional study, the cost of weapons delivered to the DoD was 15 percent lower than it would otherwise have been due to foreign sales.

The Congressional Budget Office has also conducted a study of the effect of foreign military sales, attempting to capture the complex effects of direct, indirect, induced, and structural factors that impact the employment and impact effects of a foreign military sale. They have done this by "simulating" the effect of an assumed level of foreign military sales through 1981 compared to an assumed decision to permit no new sales to be made after FY 77. This procedure, widely practiced by economists, employed two well-known statistical models of the U.S. economy, the Data Resources, Inc. model, and the Wharton Model (University of Pennsylvania). These models characterize the detailed structure of all important sectors of the economy so that experiments or "simulations" can be carried out to estimate the effects of alternative policy choices.

The results of the study showed that real (non-inflated) Gross National Product would be reduced by \$12.1-\$12.5 billion by FY 1981, and domestic American employment would be reduced by 330-380 thousand persons as a result. While this amount is a small fraction of U.S. employment which may reach 100 million by FY 1981, it is a very significant fraction of highly skilled elements of the U.S. labor force and accounts for substantial employment in certain regions of the United States such as Southern California, Eastern Massachusetts, and Southeastern New York State.

CONCLUSION

Based upon the evidence produced by rigorous economic analysis, several important conclusions follow: 1) there is no basis for assuming defense expenditure will produce fewer jobs than other forms of Federal spending; in some areas such spending will even produce more jobs than an equivalent amount of expenditure on social programs; 2) any reduction in foreign military sales, whether by the decisions of the foreign governments themselves or by intervention of the U.S. government against such sales, will have proportional reductions in U.S. employment now serving this market; 3) foreign military sales are now highly concentrated

¹Congressional Budget Office Staff, Foreign Military Sales and U.S. Weapon Costs, (Washington: CBO, May, 1976). The study showed a \$560 million annual savings, mostly from recouped research and development cost (30 percent) but other savings resulting from longer production runs such as scale economies, reduction in overhead, etc.

in a few nations; any intervention against foreign military sales by the Federal government will almost certainly have direct diplomatic repercussions against the United States unless some alternative arrangements (e.g., a direct bilateral or multilateral alliance) are made for the security of the nation involved; 4) the number of nations capable of supplying all but the most sophisticated equipment is growing. For most of the "third world," U.S. decisions against participating in the foreign military sales market will not influence the access of the nations involved to military goods and services, they will only serve to diminish domestic U.S. employment and income.