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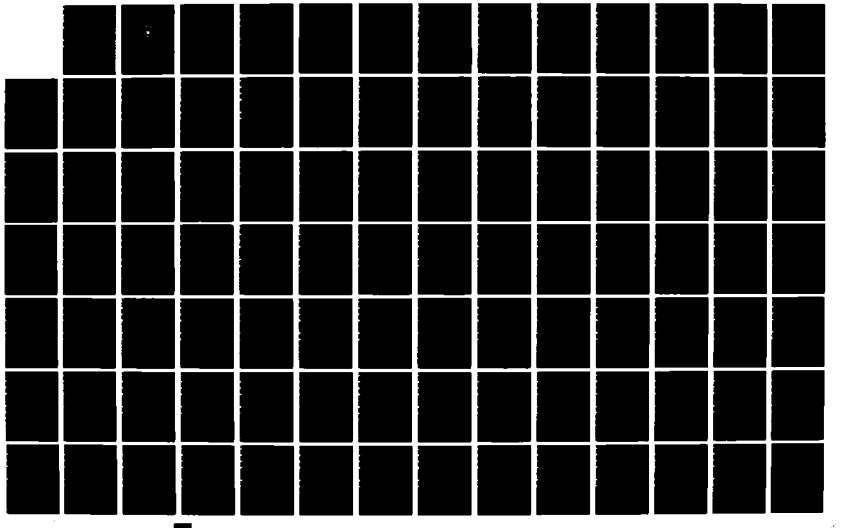

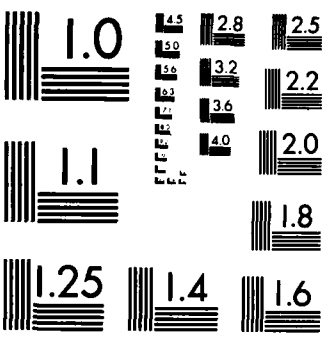

NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

A REVIEW OF THE DEBATE CONCERNING THE REAGAN ADMINISTRATION'S INCREASE IN DEFENSE SPENDING

by

Howard William Couch Jr.

December 1985

Thesis Advisor Jerry L. McCaffery

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The overall purpose of this thesis is to examine the debate concerning the consequences of President Reagan's defense buildup program on the U.S. economy and its relationship to the Federal debt. The research methodology employed consists of performing a comprehensive examination of the literature compared with available economic data for the period under study. The effects of the rapid buildup on the issues of inflation, employment, long run growth and the growing Federal debt are examined. The study includes a discussion of the present budget balancing efforts requiring a "fair share" reduction in defense spending to assist in reducing the Federal debt. The study's main conclusions are that the increased defense expenditures did not burden the economy as predicted by many defense analysts. Additionally, budgetary outlay composition data show that the current Federal debt is

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A Review of the Debate Concerning the Reagan Administration's Increase in Defense Spending

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the requirements for the degree of

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The overall purpose of this thesis is to examine the debate concerning the consequences of President Reagan's defense buildup program on the U.S. economy and its relationship to the Federal debt. The research methodology employed consists of performing a comprehensive examination of the literature compared with available economic data for the period under study. The effects of the rapid buildup on the issues of inflation, employment, long run growth and the growing Federal debt are examined. The study includes a discussion of the present budget balancing efforts requiring a "fair share" reduction in defense spending to assist in reducing the Federal debt. The study's main conclusions are that the increased defense expenditures did not burden the economy as predicted by many defense analysts. Additionally, budgetary outlay composition data show that the current Federal debt is primarily a result of the growth in uncontrollable spending for social programs and not the recent increases in expenditures for national defense.

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I. INTRODUCTION

A. BACKGROUND

The year 1980 was one of perceived national security crisis by the American public. The country had experienced a series of defense and foreign policy shocks. The Iranian revolutionaries held fifty Americans captive in the U.S. embassy in Teheran; Americans were witness to the Soviet invasion of Afghanistan on the nightly news; Soviet combat troops were discovered in Cuba; The ratification of the SALT II treaty, designed to limit the strategic arsenals between the United States and the Soviet Union had been postponed by Congress and the Carter administration. Moreover, it was an election year and the republicans were advocating significant increases in annual defense expenditures for the coming years. [Ref. 1]

The changing mood of America concerning the adequacy of U.S. defense spending was further reflected by various opinion polls conducted during this period [Ref. 2]. NBC News/Associated Press (AP) surveys showed that in the early months of 1980 public support for increased defense spending ranged from 55 percent to 74 percent, while support for less defense spending ranged from 5 percent to 13 percent. In contrast, the same poll conducted in 1978 found that only 26 percent wanted defense increases, while a majority of 51

percent wanted decreases. Other polls such as those conducted by the highly respected National Opinion Research Center reported in 1980, that of those polled, 60 percent felt that too little was being spent on national defense. In 1978, 29 percent said too little was being spent and in 1973, only 12 percent of the respondents felt that the United States was spending too little on defense.

The election of Ronald Reagan in 1980 and his subsequent reelection in 1984, provided the mandate to restore America's defenses. As President, Ronald Reagan embarked the United States on the largest military rearmament plan in peace-time history. The ensuing debate over the rapid growth in defense spending reached the highest levels among leading economists and policymakers concerning the role that increased defense spending has on the economy, social program expenditures and the federal deficits. Indeed, in March of 1985, with the Reagan buildup well underway but far from complete, a Gallup Poll reported that the winds of public opinion had changed once again [Ref. 3]. The poll reported that 46 percent of those polled felt that there was too much being spent for defense. The same poll reported that only 11 percent felt that too little was being spent for defense. Based upon Gallup Polls, public support for reduced defense spending was at its highest point since 1971, when 50 percent felt that it was excessive.

Debates over defense spending are not unique to recent times; economists have long debated its economic consequences.

The early economist, Adam Smith, presented the following in his famous book, The Wealth of Nations:

> The whole army and navy, are unproductive labourers. They are the servants of the public, and are maintained by a part of the annual produce of the industry of other people. Their service, how honorable, how useful, or how necessary soever, produce nothing for which an equal quantity of services can afterwards be procured. [Ref. 4]

President Truman proclaimed in 1948, at a time when the United States undertook what was then an unprecedented level of defense spending for peacetime, that the "country could not go on spending $14 to $15 billion a year for defense" [Ref. 5]. The ensuing debate concerning the Reagan administration's defense buildup broadly encompasses two main issues. One is the ability of the United States economy to absorb the administration's rapid defense buildup without creating inflationary pressures and reduced productivity. The other is to what extend the nation's resources should be devoted to national security compared with other spending priorities.

Respected economists Henry Kaufman of the prestigious Wall Street investment firm of Saloman Brothers [Ref. 6] and Lester Thurow of the Massachusetts Institute of Technology [Ref. 7] have warned that the buildup may have deleterious effects on productivity and inflation. Lester Thurow suggests that the proposed buildup would drain critical resources from civilian production, thereby undermining productivity. Additionally, Charles Schultze, former chairman of the Council of Economic Advisors, explains that the proposed buildup may be too rapid,

risking bottlenecks and large cost overruns [Ref. 8]. During a Senate floor debate, September 18, 1979, Senator Edmund Muskie [Ref. 9] opposed the proposed increases in defense spending levels, citing the inflationary pressures placed upon the economy as the greatest threat to the nation's national security, not the condition of the defense establishment.

Conversely, there were those who disagreed with the proposed negative economic effects of the buildup. In a statement delivered by the then chairman of the Council of Economic Advisors in October 1981, Murray L. Weidenbaum suggested that the problems with bottlenecks and inflation associated with past military buildups would not plague the proposed buildup, for "the expansion of defense production is not an unplanned surprise, but rather a gradual planned buildup over several years" [Ref. 10]. The Annual Report to the Congress for Fiscal Year 1983 includes a statement by the Secretary of Defense, Casper Weinberger stating "fears that the defense budget of this Administration will strain the economy are unfounded" [Ref. 11]. He noted that although defense spending commanded a much higher share of the GNP in the 1950s and 1960s the inflation rates averaged much lower than in recent years. A Congressional Budget Office study [Ref. 12] also reported in February 1983, "the Administration's proposed defense buildup should neither rekindle nor stunt employment growth over the next few years."

B. PURPOSE AND OBJECTIVE

The debate over the consequences of the pace and scale of President Reagan's rearmament plan has received extensive coverage, however much of the information has been contradictory and perhaps even misleading. The intent of this thesis is to examine the issues using available data for the purpose of gaining a better understanding of the effect of defense spending increases on the economy and federal deficits. Included in the study of defense spending and the federal budget deficits will be a review of the present budget balancing efforts requiring a "fair share" of defense budget reductions to assist in reducing the Federal debt.

C. RESEARCH METHODOLOGY

The research methodology will consist of performing a comprehensive examination of the literature and comparisons with available economic data concerning the effects of increased defense spending on the issues of inflation, employment, long run growth and the growing federal budget deficit.

D. ORGANIZATION OF THE THESIS

Chapter II is an overview of the United States defense posture in perspective. This chapter will begin with a brief description of the Defense Department budget formulation process followed by a review of U.S. defense spending levels from the Kennedy to Carter years. Following this discussion, will be a review of current challenges to the Nation's

national security, focusing specifically on the defense spending levels of the Soviet Union and of the Soviet's military buildup and force modernization. The chapter closes with a presentation of President Reagan's rearmament plan.

Chapter III examines the impact of defense expenditures on the U.S. economy. The issues of inflation, employment and long run growth as affected by rapid increases in defense spending will be examined.

Chapter IV will present a discussion of defense spending and its relationship to budget deficits. The chapter will begin with a review of Federal deficit growth and the economic consequences resulting from persistent large budget deficits. The chapter will continue with a description of budgetary outlay trends as influenced by their degree of controllability. The issue of the "fair share" philosophy of defense cuts in the name of budget reduction will also be presented.

Chapter V presents the conclusions and recommendations for areas of possible future study.

II. UNITED STATES DEFENSE POSTURE IN PERSPECTIVE

A. INTRODUCTION

In order to gain a better appreciation and understanding of the requirement for defense spending increases in the 1980's, and to put into perspective the debate concerning the pace and scale of President Reagan's rearmament plan, Chapter II will present a historical overview of the United States defense posture.

This chapter will begin with a brief review of the DoD budget formulation process from the establishment of the Department of Defense to present times. Related to the budget determination process will follow an examination of past U.S. defense spending levels concerning the years from the Kennedy Administration to the Carter Administration. Following this discussion, Chapter II will continue with a description of challenges to our national security, specifically the defense spending levels of the Soviet Union as compared to the United States. Included in this discussion will be the buildup and force modernization of the Soviet military forces. The chapter will then conclude with a discussion of President Reagan's rearmament plan.

B. DOD BUDGET FORMULATION

The evolution of the defense budget formulation process since the founding of the defense department in 1947 has

included many revisions to the budgetary process as well as substantial changes to the roles of the major players (i.e., OMB, OSD, JCS and the Services) involved with the establishment of defense spending levels.

The changes experienced since 1947 have been characterized by Puritano and Korb [Ref. 13] as an inevitable and healthy tension between centralization and decentralization. Puritano and Korb describe the decentralization pole as existing from 1957 to 1961 in which DoD received a specified budget ceiling (either a fixed one third share of the federal budget under President Truman, or a maximum of 10 percent of GNP under President Eisenhower) within which the Secretary of Defense allocated shares to the services. Except for the centralized determination of the total spending level, virtually all other internal programmatic and budgetary responsibilities were decentralized to the services. During this period defense spending levels depended largely on the desires of the President and his Secretary of Defense. Since the style of defense policymaking dépended largely on the wishes of the President and the Secretary of Defense, the permanent bureaucracy was discouraged from trying to reorganize itself to produce a more unified defense policy based on national security needs [Ref. 14]. In a statement to the Senate Subcommittee on National Policy Machinery in 1960, former Chief of Staff, U.S. Army, General Maxwell Taylor stated:

> the budget ceilings, often set with little knowledge of their strategic implications, controlled the growth,

> direction, and evolution of the armed forces and gave economic and budgetary factors an overriding say in determining military posture. [Ref. 15]

It was against this background that the budgetary process was radically revised when Mr. McNamara became Secretary of Defense in 1961 and implemented his planning, programming and budgeting system, better known as PPBS. With the introduction of PPBS the contrasting pole of centralization was firmly established and would remain so from 1961 to 1969 [Ref. 16]. During this period with PPBS as his principal tool, Secretary McNamara exercised almost total central control over the process. The services lost control over their internal budget process and merely executed the detailed programmatic guidance as laid down by the Secretary.

The PPBS system contrasts with the traditional budgeting process which preceded it from 1947 to 1961 in two different ways. First, the focus of PPBS is more on objectives and purposes and the long term alternative means for achieving them, placing less emphasis on seeking annual incremental improvements to the existing budget base. Secondly, by bridging together planning and budgeting by means of programming, available resources are distributed equitably among the many competing programs. The system can be summarized in a few words. Based on the anticipated threat, a strategy is developed. Requirements of the strategy are then estimated and programs are developed to package and execute the strategy. The last step involves budgeting for the cost of the approved programs. [Ref. 17]

Although modified over the years by a series of reactions to the Administration in office, PPBS continues to be the framework for making resource decisions in the Department of Defense. In the Nixon-Ford administrations, Secretary of Defense Laird relaxed the centralized control of the process, and programs were developed by the services within guidelines as set forth by OSD. The Carter years with a very strong Secretary of Defense in Mr. Harold Brown, witnessed a reversal in the trend as initiated by Secretary Laird During this period power and authority diminished for the services and the secretaries and OSD regained a much greater programmatic role. [Ref. 18] The Reagan Administration through Secretary of Defense Weinberger has changed the management style once again [Ref. 19] in the other direction toward controlled decentralization with the assignment of more responsibility to the service Secretaries, and greatly reducing the PPBS paperwork requirements that have built up over the years.

The quality of decisions concerning the formulation of the defense budget depends upon how well the leadership in DoD uses the PPBS process to develop defense programs that conform to the realities of the international environment. In a study of the Defense Department budget formulation process, Anthony and Herzlinger [Ref. 20] suggested:

> It would be incorrect to conclude that the budget was the result of a completely scientific, rational analysis. It would be equally incorrect to conclude that the budget was a slap-dash set of numbers that had no analytical underpinnings. The correct impression is somewhere in between. Much of the budget is based on

> sound analysis of data, and the people who make these analyses, both in OSD and in the Services, are among the most highly skilled and hardest working in the government. But for many of the issues, the data are simply not solid enough to permit a good analysis, and these decisions depend on judgement and on a process of negotiation. This may be unscientific, but it is the way life is.

In studying the budget formulation process of the Defense Department, one must keep in mind that if a President or the Congress is so minded and has the support of the public, major defense policy decisions can be taken by the Executive and/or Legislative branch despite the serious doubts and reservations as expressed by the top leadership of the Armed Services.

C. EXPENDITURES FOR NATIONAL DEFENSE

1. General

A review of defense funding levels for the period of '960 to 1980 reveals that despite a significant level of growth in federal spending, there has been a dramatic shift from defense to non-defense spending. Although this time frame is marked by great year to year fluctuations, there exists an overall downward trend in the allocation of resources devoted to the national security of the United States. The Pentagon's budgets appear to be more a function of national opinion than of challenges to national security. As a top decision-maker and former assistant to the Secretary of Defense, W.S. Thompson [Ref. 21] wrote, "Policymakers had let our defenses slide, owing to the growing demands for Great Society Programs and to the escalating antiwar movement."

The terms budget authority and budget outlays as used in Tables 1 and 2 to represent budgetary trends are defined respectively by Collender [Ref. 22] as:

> Budget Authority: The authority granted to a federal agency in an appropriations bill to enter into commitments that result in immediate or future spendings. In most cases budget authority is not the amount of money an agency or department actually will spend during a fiscal year but merely the upper limit on the amount of new spending commitments it can make.
> Budget outlays: The actual amount of dollars spent for a particular activity. The total results from both new budget authority provided this year and from unexpected balances of budget authority provided in previous years.

Table 1 is presented in constant fiscal year 1983 dollars instead of current dollars and shows that defense budget authority increased moderately during the early years of 1960, decreased in 1964 and 1965 and increased rapidly from 1966 to 1968. Then for the next seven budgets, it fell every year. The years 1976 to 1980 witnessed an increase of only 0.7 percent. In real percentage terms defense budget authority increased only 7.4 percent from 1960 to 1980.

Table 2 is presented in constant fiscal year 1972 dollars instead of current dollars and presents defense outlays as a percent of total federal budget outlays. A study of defense outlays from this viewpoint clearly discloses the shift from defense to non-defense spending. In 1960, defense outlays as a percent of total outlays were 54.7 percent. Twenty years later that percentage had declined by 60 percent resulting in 1980 defense outlays of only 21.9 percent of total federal budget outlays.

TABLE 1

DEFENSE BUDGET TRENDS: BUDGET AUTHORITY AND OUTLAYS
(BILLIONS OF FY 1983 CONSTANT DOLLARS)

FY	DOD BUDGET AUTHORITY	PERCENT CHANGE	DEFENSE OUTLAYS	PERCENT CHANGE
1959	170.9		165.4	
1960	166.0	-2.8	164.3	-0.7
1961	165.5	-0.3	166.9	1.6
1962	188.5	13.9	179.6	7.7
1963	191.8	1.7	182.6	1.6
1964	184.6	-3.7	181.6	-0.6
1965	177.0	-4.1	165.6	-8.8
1966	213.1	20.4	183.2	10.7
1967	232.3	9.0	216.1	18.0
1968	235.4	1.3	236.0	9.2
1969	226.5	-3.8	229.6	-2.7
1970	204.4	-9.7	211.6	-7.8
1971	183.8	-10.1	191.9	-9.3
1972	178.9	-2.7	179.4	-6.5
1973	170.8	-4.5	164.0	-8.6
1974	165.2	-3.3	160.5	-2.1
1975	161.5	-2.3	160.6	0.1
1976	168.2	4.2	155.1	-3.4
1977	177.2	5.3	157.9	1.8
1978	174.2	-1.7	158.7	0.5
1979	174.4	0.1	165.0	3.9
1980	178.3	2.3	170.0	3.0

Source: Congressional Budget Office Study, Defense Spending and the Economy, February 1983

TABLE 2

DEFENSE OUTLAYS AS A PERCENT OF TOTAL BUDGET OUTLAYS
(BILLIONS OF FY 1972 CONSTANT DOLLARS)

FY	TOTAL BUDGET OUTLAYS	DEFENSE OUTLAYS	PERCENTAGE OF TOTAL OUTLAYS	PERCENT CHANGE
1959	146.7	81.2	55.3	
1960	143.3	78.4	54.7	-1.0
1961	149.9	80.0	53.3	-2.5
1962	162.4	83.3	51.2	-3.9
1963	163.0	81.1	49.7	-2.9
1964	170.4	81.5	47.8	-3.8
1965	166.8	74.1	44.4	-7.1
1966	183.0	81.3	44.4	0.0
1967	207.6	96.8	46.6	4.9
1968	224.7	105.7	47.0	0.8
1969	220.3	101.6	46.1	-1.9
1970	220.3	94.0	42.6	-7.5
1971	222.7	84.9	38.1	-10.5
1972	230.7	79.2	34.3	-9.9
1973	233.3	71.8	30.7	-10.4
1974	238.0	69.6	29.2	-4.8
1975	266.4	69.2	25.9	-11.3
1976	279.5	67.0	23.9	-7.7
1977	286.3	67.3	23.5	-1.6
1978	300.2	67.2	22.3	-5.1
1979	304.4	69.5	22.8	2.2
1980	324.4	71.3	21.9	-3.9

Source: Historical Tables, Budget of the U.S. Government 1985

2. Military Spending from Kennedy to Carter

When President John Kennedy assumed office in January 1961, the country was spending just over forty billion dollars per year on national defense. Defense spending had declined during President Eisenhower's second term and the new President felt that forty billion dollars was not adequate to meet the Soviet challenge. Therefore, during his term of office, the level of defense budget authority increased by over 15 percent and defense outlays rose by 9 percent. Kennedy applied the bulk of the increased funds into accelerating both the strategic land-based Minuteman missile program and the Polaris sea-based missile program which were originated by the Eisenhower administration. The administration of these programs on a crash basis resulted in a quantum improvement in the strategic weaponry of the United States. For example, according to Jane's Fighting Ships, when Kennedy assumed office the United States had three Fleet Ballistic Missile Submarines each equipped with sixteen launchers for a total of forty-eight launchers in commission [Ref. 23]. Six years later, by halving the program time, an additional thirty-nine submarines equipped with a total of 624 launchers were added to our strategic arsenal. Similar results were achieved in the Minuteman program. In December 1960, the United States had nine operational ICBMs. Six years later in 1966, the country had over 1,000 operational missiles. [Ref. 24]

The conventional forces were built up as well by the Kennedy administration. The President increased the size of

the armed forces as well as procurement funding levels. By the end of 1965, the efforts of the Kennedy administration had increased the size of the Naval fleet by sixty-one ships, Air Force tactical squadrons by twenty-four, airlift squadrons by five, and Army ground combat divisions by five [Ref. 25]. On the even of the Vietnam War the nation's conventional forces were in a much improved condition.

The defense budgets during the Administrations of Lyndon Johnson were driven by the Vietnam War in Southeast Asia. Between fiscal years 1964-1968, the budget authority for the Pentagon increased by over 28 percent, primarily due to the war effort. As shown from Table 1 the total defense budget authority as approved by Congress in 1968 was $235 billion, which included $26.8 billion dollars to support the Vietnam War. This amount was the highest level of authority since the 1952 Korean War level of $288 billion and is significantly higher than President Carter's 1980 level of $178 billion. Additionally, Table 2 shows that defense outlays as a percentage of total federal budget outlays reversed a downward trend and were 47 percent of total outlays in 1968. By 1980 this amount has declined by 53 percent to a figure of only 22 percent of total outlays.

During the Johnson years, expenditures for other than war-related items were reduced. Not only was all the increment in the budget diverted to the war effort, but funds were also taken from other areas of the defense budget. Spending for

strategic forces dropped from 27 percent of the budget before the war to only 9 percent in 1966. The development of a new manned strategic bomber to replace the aging B-52s was significantly delayed due to the reduction in funding. Shipbuilding for the Navy suffered as well. During the five years prior to the war, the Navy constructed an averaged of forty-five ships per year. During the entire war, only eight ships were built. [Ref. 26]

In the first year of the Nixon administration the U.S. Senate turned against the Vietnam War toward a new, less assertive foreign policy [Ref. 27]. The mood of the Senate changed after the Tet offensive in 1968 and with President Johnson's decision not to seek reelection. The effect of this change was a dramatic decline in the level of defense spending. Defense budget authority decreased seven years in a row from fiscal years 1969-1975. Tables 1 and 2 show that during the Nixon tenure, constant dollar defense spending decreased about 30 percent and defense outlays as a percentage of total federal budget outlays declined by 36 percent.

The spending cuts were not made in a vacuum. The Vietnam War and Watergate crises generated a public antipathy toward adequate defense budgets. The desire of the American public was to devote all available resources toward improving domestic issues confronting the war-torn nation. Enviornmental and energy issues were very high on the nation's agenda. During this period of time, the sense of Congress was truly a reflection of the sense of the people. [Ref. 28]

During President Ford's first year in office a highly secret National Security study reported serious deficiencies in the nation's defense posture. Recognizing that the national security situation was becoming precarious, the Ford administration laid down a five year plan increasing the defense budget by a real increase adjusted for inflation of 40 percent or about 8 percent per year in fiscal years 1977-1981. Included in the Ford defense plan was the building a full force of 244 B-1 strategic bombers, deploying the MX by 1983, construction of thirty-two naval ships per year, funding for three Trident submarines every two years and major purchases of tactical fighter aircraft annually [Ref. 29]. During Ford's abbreviated tenure, defense budget authority increased 6.5 percent from 1975 to 1976 increasing from a negative 2.3 percent to a positive 4.2 percent.

The Democrats took control of the White House in 1976 with the election of President Carter who had campaigned strongly on the issues of world peace and human rights. Although a minority of lawmakers were beginning to understand the shift in military balance between the U.S. and the Soviet Union, the country was still healing from the effects of Watergate and elected Carter over voting for the more hawkishly-perceived Ford.

In the first year of the Carter Administration major portions of the Ford program were phased out or reduced. As a result between FY 1978 and 1980, forty billion dollars in

investment funds were cut from the Ford plan. Strategic reductions included the postponement of the MX system by four years, the cancellation of the B-1 bomber and the neutron bomb programs altogether, reducing the Navy shipbuilding program by one half and cutting the Trident building rate by one third [Ref. 30]. In addition, as Table 1 shows, new defense budget authority dropped in 1978 and 1979 from the 177.2 billion dollars in 1977 that had been approved by the Ford Administration.

The defense debate faded into the background and remained rather quiet in 1977. In late 1978 and early 1979, a change in opinion began to emerge in the Senate. The mood accelerated as the Senate studied SALT II and began a painstaking analysis of the balance of power between the two super powers. A Library of Congress study entitled Congress and Foreign Policy--1979, states:

> Perhaps the primary impact of Congress on foreign policy during 1979 was to force into the open a major debate on the adequacy of U.S. strategic and defense posture . . . it was the Senate consideration of the SALT II treaty, and the raising of doubts as to whether it should be ratified, that brought the strategic issue to the forefront of public discussion. [Ref. 31]

During the Senate debate of SALT II a consensus began to emerge on the underlying trends in the nation's defenses. As Joshua Muravchik writes in a paper entitled, "The Senate and National Security: A New Mood":

> The SALT II hearing did something interesting. . . . The discussions very quickly became technical--the heavy missiles, verification, the Backfire bomber. One by one, a lot of the weight went out of those issues as a means of arguing the treaty down, but in the process

> a lot of senators and a lot of people testifying found they were learning from each other just what was our strategic strength [and] where we were heading. [There was] a general admission on both sides that indeed we were falling behind. [Ref. 32]

As a result of the alarming discoveries revealed during the SALT II debate, the Senate demanded rearmament. It forced President Carter to withdraw the SALT II treaty and through the use of budget amendments greatly increased funding for defense over the levels submitted by the Carter Administration [Ref. 33]. The wave of support for rearmament and restoration of the nation's defenses swept the country and was swelled by the seizure of the U.S. Embassy in Iran and the Soviet Union's Christmas invasion of Afghanistan. Americans had come to the conclusion that the post-Vietnam pendulum had swung too far.

3. Defense Outlays as a Percent of GNP

Gross national product (GNP) is defined by Hitch and McKean [Ref. 31] as simply the dollar value of a nation's final output over a period of one year. It can be viewed as the total volume of goods and services, valued at market prices, that is available to satisfy the nation's needs for a period. Hitch and McKean further explain that any consumption, replacement of wornout or obsolete equipment, additions to the stock of capital, military outlays or any other government expenditures must come from GNP. Therefore the resources that are devoted to defense spending each year are essentially a percentage of the outputs of capital and supply of labor both of which make up GNP.

Table 3 is measured in constant fiscal year 1972 dollars and portrays defense outlays as a percentage of GNP. An examination of defense spending in relation to available GNP from FY 1960 to FY 1980 reveals that while GNP increased by 100 percent during this period, defense spending as a percentage of GNP actually declined by 55 percent up to the Reagan reversal. It is clear that as the economy has grown the relative investment in defense expenditures has diminished.

Due to the defense reductions after the Vietnam War, defense spending as a percent of GNP fell every year from 1969 to 1978 except for one year during the Ford Administration. This decline was reversed as a result of the SALT debate. During the debate the nation and its lawmakers began to realize the degree of the armed force's inferiority and commenced yearly increases in defense spending as a percentage of GNP beginning with fiscal year 1979.

D. CHALLENGES TO NATIONAL SECURITY

1. General

There exists little argument that the basic mission of the Armed Forces is to help preserve the United States as a free nation, with its fundamental institutions and values intact [Ref. 35]. In addition, the United States has global interests and commitments to many nations whose national sovereignty directly depends upon the strength of American military power. To succeed in its mission, the U.S. military forces must be strong enough to deter armed challenge and be

TABLE 3

DEFENSE OUTLAYS AS A PERCENT OF GNP
(BILLIONS OF FY 1972 CONSTANT DOLLARS)

FY	GNP	DEFENSE OUTLAYS	PERCENTAGE OF GNP
1960	737.2	78.4	10.63
1962	800.3	83.3	10.42
1964	876.4	81.5	9.29
1966	984.8	81.3	8.25
1968	1058.1	105.7	9.98
1970	1085.6	94.0	8.65
1971	1122.4	84.9	7.56
1972	1185.9	79.2	6.67
1973	1254.3	71.8	5.72
1974	1246.3	69.6	5.58
1975	1231.6	69.2	5.61
1976	1298.2	67.0	5.16
1977	1369.7	67.3	4.91
1978	1438.6	67.2	4.67
1979	1479.4	69.5	4.69
1980	1475.0	71.3	4.83
1981	1512.2	74.6	4.93
1982	1480.0	80.2	5.41
1983	1534.7	86.5	5.63
1984	1639.3	90.0	5.49

Sources: Historical Tables, Budget of the U.S. Government 1985: Survey of Current Business, U.S. Dept. of Commerce, October 1983/Vol. 63, No. 10: Economic Indicators, Prepared by the Council of Economic Advisers, p. 2, June 1985.

capable of successfully defeating challenges when called upon.

Challenges to the security of the United States and its allies are many. In particular, it is necessary to maintain a military balance with the growing size and capabilities of the Soviet Union's armed forces. This requirement is absolute since the Soviet Union is not adverse to using the power of its armed forces an evidenced by the following recent examples; The shooting down of the Korean civilian airliner, with the loss of 269 innocent lives; The establishment of bases within striking distance of the Persian Gulf oil fields endangering the free world's supply of oil; The growing arsenal of weapons and Soviet personnel in Syria, Libya, Cuba, and Nicaragua; The invasion of Afghanistan; And the Soviet penetration of the island of Grenada designed to change the political alignment in the Cairbbean basin and to improve its own strategic position in the region [Ref. 36]. The aggressive Soviet activity has been prompted by the Soviet's perception of weakness in the will and defense posture of the United States. Should the Soviets ever achieve clear superiority, they would most certainly try to exploit their military strength to a greater degree. Defense Secretary Weinberger stated in The Annual Report to the Congress for Fiscal Year 1983 [Ref. 37], "There is nothing hypothetical about Soviet Military Power--it is real; and it is the single greatest threat to the United States and the Free World."

2. Soviet Union Defense Expenditures

A major difference between defense spending in the United States and the Soviet Union is that the yearly debates over the appropriate level of defense versus non-defense programs in the United States are nonexistent in the Soviet Union. Kremlin leaders can be confident of funding any military program they desire without the problems of dealing with an independent legislative branch, free press or adverse public opinion.

One of the Kremlin's most closely guarded secrets, kept not only from the outside world but also from the Soviet people, is the true cost of their defense expenditures. Each year Soviet officials publish an official figure for the defense budget, but this cannot be taken as an indication of the true defense budget because it is clearly insufficient to fund the full range of Soviet military activities [Ref. 38]. While the defense budget of the U.S. is openly published, the defense budget figure released by the Soviet Union represents only a fraction of the Kremlin's total defense spending.

There was general acceptance in the West during the early 1970's that the true Soviet defense burden accounted for 5 to 6 percent of the Soviet GNP [Ref. 39]. However, in 1976, the intelligence community suddenly revised that figure by over 100 percent from 6 percent to 11-13 percent of GNP [Ref. 40]. The primary reason for the revised estimates is that the CIA had covertly obtained information from the Soviet Defense

Ministry showing that defense spending was much higher than the CIA had originally estimated [Ref. 41]. The CIA's revised estimates as compared with the data in Table 3, shows that the Soviet Union's defense outlays as a percentage of GNP for the 1970's were more than double that of the United States.

There are those who allege that the Soviet defense burden is still understated and that the actual figure is much higher. Economist William T. Lee, a highly respected Soviet defense analyst, argues that the defense burden is more in the range of 20 percent of GNP [Ref. 42]. Information received from prominent Soviet dissidents such as Andrei Sakharov claim that the burden is in excess of 40 percent [Ref. 43].

Precise estimates of defense spending for the Soviet Union are difficult at best. Recent figures from the Department of Defense now indicate that Soviet defense expenditures have continued to increase in the 1980's as a percentage of their GNP with the military share of the Soviet economy commanding a range of 15 to 17 percent of their total GNP by 1985 [Ref. 44]. Defense analysts do agree, however, that the massive Soviet military buildup over the past twenty years has caused a shift in the military balance between the two superpowers. Since 1960, the steady Soviet military spending combined with the decline of by more than 20 percent in real terms of U.S. defense spending in the decade of the 1970's, caused the superiority of the United States military power to disappear. The Director of Central Intelligence, William

J. Casey stated in a recent speech [Ref. 45], "The growth in overall Soviet military power, unmatched by the West over the past 15 to 20 years, has encouraged them to try intimidation to split our allies away from us and undermine our credibility." The Reagan defense budgets as submitted to Congress have been designed to counteract this ominous trend.

3. Soviet Military Buildup and Force Modernization

Over the past two decades, the Soviet Union has expanded and modernized its military forces improving every facet of their strategic and conventional forces both in numbers and in quality.

As an example, while the United States is in the twelfth year of debate over the deployment of its third generation ICBM, the MX missile, to replace the aging Minuteman III introduced in 1969, the Soviets are testing and will shortly deploy, their fifth generation of ICBM's. During the twelve years of debate in the U.S., the Soviets have already deployed more than six-times the number of ICBM's that are asked for in the entire MX missile program. [Ref. 46]

The submarine-launched ballistic missile program which represents one third of the United States defense triad has not kept pace with the Soviets. Over the same period, the Soviet Union built four new classes of submarine-launched ballistic missiles and over sixty new missile submarines. The United States built only two new types of submarine missiles and withdrew ten submarines from strategic missions. [Ref. 47]

The Soviet Union has also expanded its intermediate range and battlefield nuclear forces. According to General John W. Vessay, Chairman, Joint Chiefs of Staff serving President Reagan from 1982-1986 [Ref. 48], of gravest concern is the SS-20 missile launchers, each of which contain three nuclear warheads. More than eighty such Missile launchers were added to the Soviet force so that more than 330 launchers and reloads are now arrayed against Western Europe, Japan, and China. This force could give the Soviets significant leverage over the allies of the United States. The United States does not have a comparable system to counter this threat.

Improvements to the Soviet's strategic aviation assets include the development of the Blackjack, a long range strategic bomber. The Blackjack is in the flight test stage of development and is expected to be added to the existing modern fleet of Soviet Backfire bombers in 1987. The Backfire bombers were deployed initially in 1974 and have been produced at a rate of thirty per year as compared to the aging fleet of 241 1950's vintage B-52's for the United States. The Blackjack is larger and faster than the United States B-1B bomber which will not deploy until 1985. [Ref. 49]

Secretary Weinberger reported in the Executive Summary of the Annual Report to Congress [Ref. 50] that the Soviets have maintained an overall numerical advantage in most categories of conventional forces during the postwar period. The report further states that since the mid-1970's, the Soviets

have widened their advantage in nearly every force category by producing major conventional weapons at rates exceeding those of the United States and its allies combined. Since 1974, the Soviet Union has produced twice as many tactical combat aircraft, three times as many attack submarines, five times as many armored vehicles including tanks and fourteen times as many artillery and rocket launchers.

The buildup of the Soviet military has resulted in the number of active duty personnel far exceeding that of the United States. General John W. Vessey reported [Ref. 50] that there are about five million active military personnel in the Soviet military as compared to a United States military force of only two million. Soviet military experts agree that the Soviet forces are well-trained and well-equippped to execute Soviet policy.

E. REAGAN'S REARMAMENT PLAN

The cornerstone of the Reagan Administration has been the commitment of Ronald Reagan to strengthen the Armed Forces of the United States. Upon assuming office in January 1981, the President stated [Ref. 51]:

> I was appalled by what I found: American planes that couldn't fly and American ships that couldn't sail for lack of spare parts and trained personnel and insufficient fuel and ammunition for essential training. The inevitable result of all this was poor morale in our Armed forces, and difficulty in convincing our most experienced military personnel to stay on.

Dramatic increases have been achieved in the defense budgets of the United States in the early 1980's due to the

leadership of President Reagan and the bipartisan support of the Congress and the American people for a stronger defense. Measured in constant 1985 dollars against the last full defense budget of the Carter administration, defense budget authority as shown in Table 4 has increased by 52 percent during President Ronald Reagan's first term in office. This increase is especially significant when compared to the period of fiscal years 1972-1980, which experienced an actual overall decline of .5 percent in defense budget authority. Defense outlays as a percent of GNP have risen from 4.83 percent in 1980 to about 5.5 percent of GNP in 1984, and are projected to rise to about 7.3 percent of GNP by 1989.

Improvements to the nation's armed forces are many. For example, the B-1B strategic bomber program once cancelled by the Carter administration was revived with the first long range bomber in twenty-one years delivered in 1985. After the U.S. had not built a strategic submarine for seventeen years, the USS Ohio was launched in 1981 and will be followed by the yearly production of one Trident submarine. The debate concerning the MX missile although far from over, has been greatly influenced by the Reagan administration. In a statement before the Senate Armed Services Committee, Secretary of State George Shultz stated [Ref. 52], "A credible, flexible American strategic posture is vital to the stable balance of power on which peace and security rest. And the MX is a vital element of that stable balance." On July 17 1985 a

TABLE 4

DEFENSE BUDGET AUTHORITY
(BILLIONS OF FY 1985 CONSTANT DOLLARS)

FISCAL YEAR	TOTAL BUDGET AUTHORITY	PERCENT CHANGE
1972	193.2	
1976	181.5	- 6.05
1980	192.1	5.84
1982	242.2	26.08
1983	260.4	7.51
1984	269.9	3.65
1985	293.0	8.55
1986*	302.5	3.24
1987**	354.0	17.02
1988**	401.0	13.27

* Proposed FY-86 budget in current year dollars as passed by the Senate

** Long range estimates in current year dollars

Source: Annual Report to the Congress on the FY 1985 Budget, FY 1986 Authorization Request and FY 1985-89 Defense programs, p. 279

House-Senate conference committee agreed to set a statutory limit of fifty MX missiles, approving half the number President Reagan had sought.

Conventional force improvements have included the fielding of the ABRAMS tank, the first new tank for the Army in twenty years. The Navy which shrank from about 1,000 ships in the late 1960's to about 453 during the late 1970's has embarked on a large scale shipbuilding program to build a 600 ship Navy in response to the buildup and modernization of Soviet naval forces. [Ref. 53]

F. SUMMARY

The late 1970's witnessed a change in the mood of the American public concerning defense spending in response to the unrelenting growth of Soviet military power. While America was examining its conscience, having been shaken by Vietnam and Watergate, the Soviets were building up their military at a rate far in excess of their legitimate needs.

The United States defense posture is very different from what it was in 1980. The nation has begun to restore the credibility of its military forces in the face of Moscow's ongoing arms buildup. The challenge before the Administration is to sustain the progress it has made in order to ensure the completion of the rearmament plan.

The Reagan rearmament plan to counter the Soviet threat, has not been without its critics. The pace and the economic impacts of the administration's defense spending increases

on the economy and federal budget deficits continue to be debated as President Reagan enters his second term.

III. DEFENSE EXPENDITURES AND THE U.S. ECONOMY

A. INTRODUCTION

Considerable controversy concerning the economy's ability to accommodate the changes in defense spending has been generated due to the significant increases in defense expenditures as proposed by the Reagan Administration. Although the economy will successfully adjust to most changes in the long run, its ability to adjust in the short run has been keenly debated. The question of whether the effects of rapid defense expenditures on the nation's economy during peacetime are positive or negative is an extremely difficult one to answer. There are experts and data to support both arguments with opinions highly dependent upon the viewpoints of the analysts. While most analysts do agree that the nations' defense posture must be improved, the Reagan buildup plan has not escaped the debate over the economic consequences of such a spending program on the U.S. economy.

Concerns among policy analysts about the economic effects of the Reagan administration's military buildup have been expressed from the outset due to the pace and magnitude of the nation's resources committed to national defense. There are those who feel that the rapid spending increases will seriously risk the rekindling of inflation and undermine the nation's economic growth. This argument has been frequently

raised by Semour Melman of Columbia University and has been endorsed by the well-known economist John Kenneth Galbraith [Ref. 54]. It is their belief that sharply increased spending will bid up the cost of strategic materials and skilled labor that are also needed by the civilian sector of the economy.

Supporters of the Reagan plan believe that the economy is large enough to absorb the expanding arms expenditures. Noted economist Murray L. Wiedenbaum explains that since the Reagan buildup is well planned and will be spread out over a number of years, the adverse economic effects that resulted from the rapid, crisis-like buildups of the Korean and Vietnam wars will not be duplicated [Ref. 55]. William Nordhaus, a former member of President Carter's Council of Economic Advisors, has stated [Ref. 56], "The economic evidence indicates that the administration's planned defense buildup will pose no substantial economic risks, nor provide a major inflationary impetus to the American economy."

This chapter will review the relationship between an increased level of expenditures for national defense and the effects that such an increase may have on the economy. The relationship will be examined from a macroeconomic standpoint and will include the issues of inflation, employment and long run economic growth.

B. THE ISSUE OF INFLATION

One of the most important issues raised in the defense spending debate is the potential effect of increased defense

outlays on inflation. No subject cuts across every socio-economic class and effects the American public to such a degree than that of inflation. Webster's New Collegiate Dictionary [Ref. 57] defines inflation as "an increase in the volume of money and credit relative to available goods resulting in a substantial and continuing rise in the general price level." The measurement of inflation in the United States as used in this study, is performed by the Bureau of Labor Statistics through the use of the U.S. Consumer Price Index (CPI). Since its inception prior to World War I, the objective of the CPI was to measure changes in the cost of a fixed market basket of goods and services in order to gauge changes in consumer's cost of living and to provide the American people, as well as policymakers in government, industry, and labor, with an accurate and easily understandable measure of the rate of inflation [Ref. 58]. Americans across the country have had to adjust their personal financial plans such as the purchase of a new home or the ability to send their children to college as a result of high rates of inflation. It is not difficult to understand why the potential inflationary effects that rapid increases in defense spending may have on the economy is a subject in which all Americans have a keen interest.

In the past when the United States has increased defense spending as rapidly as the Reagan buildup plan proposes, it has also experienced a substantial increase in inflation. As can be seen from Table 5, in each of the past four major armed

TABLE 5

ACCELERATION OF INFLATION DURING PREVIOUS MILITARY BUILDUPS
(By calendar year; average annual percent increases)

START OF BUILDUP	INFLATION RATE FOR THREE PRIOR YEARS (*)	INFLATION RATE FOR THREE SUBSEQUENT YEARS (**)
1917	8.7	16.0
1941	1.5	6.2
1950	2.6	3.6
1965	1.4	3.3

* Average annual rate of increase in Consumer Price Index for three years ending in the year when the buildup began.

** Average annual rate of increase in Consumer Price Index for three years following the year the buildup began (for example, in the case of World War II, 1942-1944).

Source: Congress of the United States Congressional Budget Office Study, Defense Spending and the Economy, February 1983, page 5

conflicts, inflationary pressures resulted in higher rates of inflation following the outbreak of each war. The data shows that defense requirements in competition with the needs of the general population for raw materials, labor and other defense needs resulted in speculative surges in prices with the United States involvement in World War I, World War II, Korean War and the war in Vietnam. It is important to note that the inflation rates for the three subsequent years during the periods of World War II and the Korean War, do not truly portray the actual inflation rates for these periods due to imposed price controls by the government. Additionally, the large buildup of the Vietnam War is generally credited with the high rates of inflation in the early 1970's prompting President Nixon to apply wage and price controls in an effort to control inflation. [Ref. 59]

The increased rates of inflation experienced during periods of rapidly expanding defense spending greatly supports the view held by many that there exist a positive correlation between rapid increases in defense spending and inflation. Although the sources of inflationary pressures on the economy are numerous, many analysts have suggested that the Reagan buildup will result in similar inflationary pressures in the 1980's. In his book, The Defense Industry [Ref. 60], Jacques Gansler supports the view that the impact of rapid increases in defense spending would be to bid up the cost of required needs and result in increased inflationary pressures. He states that

competition with the civilian market for labor, parts and production machinery would create production bottlenecks and result in price level increases.

As a senior fellow in the Brookings Economic Studies program and past Chairman of the Council of Economic Advisors, Charles Schultze in testimony prepared for the Joint Economic Committee of the Congress, supports the view that the Reagan buildup would be inflationary [Ref. 61]. Schultze explains that in contrast to other areas of the budget, a rapid increase in military spending would require an abnormally large expansion in the output of a particular group of firms or industries. He further states that this would likely lead to bottleneck cost increases as defense firms scramble to increase output more rapidly and in the process bid up the prices of particular materials, components, and labor skills needed in defense production. As a consequence, Schultze claims that the military would end up with cost overruns, and that the civilian industries would face rising costs to the extent that they must use the scare materials and labor whose prices have been bid up.

The Reagan defense buildup has not increased the level of inflation as many analysts had predicted it would. A review of the actual changes in the CPI for the three years prior to the Reagan buildup as compared to changes in the CPI for three years following the start of the buildup shows that the Reagan buildup has coexisted with decreasing levels of inflation. In

fact, the level of inflation has declined by over 100 percent during this time. According to the Bureau of Labor Statistics [Ref. 62] the average inflation rate for the three years prior to the buildup (1978-1980) was 11.56 percent. This is in sharp contrast to the average inflation rate for the three years following the buildup (1981-1983) which had dropped to a low rate of 5.53 percent. This is especially interesting in that the Reagan buildup is particularly pronounced in the area of procurement. In testimony before a Congressional Committee, Richard Stubbing, former deputy chief, National Security Division of OMB and presently the assistant provost, Duke University [Ref. 63] explained that in the last five years, Congress has appropriated 1.2 trillion dollars for defense from 1981 to 1985, of which over 330 billion dollars of this is real growth. Of the 330 billion dollars, about 190 billion has gone into research and development and procurement with the remaining 110 billion dollars marked for operational kinds of expenditures. Reagan's defense buildup is in sharp contrast to the Korean and Vietnam buildups in which personnel and areas related to personnel received most of the appropriations. Even with the heavy emphasis on procurement, the bottleneck induced cost increases associated with past defense spending expansions have not presented themselves as predicted.

An important factor in explaining why the U.S. economy is able to support the Reagan program without creating the predicted inflationary pressures and supply shortages is due to

the significant amount of excess industrial capacity that existed during this period. A Department of Commerce study in 1982 [Ref. 64] examined this subject in detail. The study estimated the 1985 output levels of over 400 industries and then evaluated domestic production capabilities to supply these demands for those industries that were most vital to the defense effort. From this initial population, fifty-eight industries were selected as most vital and studied in detail because five percent or more of their 1979 output was directly or indirectly related to defense needs. The most important conclusion of the study was [Ref. 65], "for most of the fifty eight industries, existing capacity is sufficient to supply the projected (1985) demands of the economy." The report further stated that the conducted research revealed no instance where industry-wide supply bottlenecks were likely to prevent the achievement of defense goals as established by the Reagan program.

In the opinion of Dr. Wayne Schroeder, a professional staff member with the Senate Appropriations Committee, Defense Subcommittee, the substantial underutilized capacity throughout the defense industry is due primarily to the underfunding of defense in the 1970's [Ref. 66]. As a result, the excess capacity in the industrial segment of the nation's economy has allowed the Reagan program to proceed at its accelerated pace without the inflationary pressures normally associated with such a large buildup.

A recent study performed by Donald Vitaliano, an associate professor at Rensselaer Polytechnic Institute [Ref. 67], also provides a possible explanation for the lack of a positive correlation between defense spending and inflation. Vitaliano suggests that the popular belief that a rapidly growing military budget will aggravate inflation is not consistent with available evidence. Vitaliano's study presents the results of an empirical analysis in which defense spending was analyzed alongside with other variables to explain the rate of inflation for the period 1955-1979. In examining the hypothesis that increased defense spending leads to higher inflation, Vitaliano concludes that there appears to be no perceptible impact on the rate of price inflation separably attributable to defense spending. Vitaliano, however, does suggest that inflationary expectations of increased defense spending may in itself produce a rise in the inflation rate. As an example, in order to hire the best people, wages for skilled people are bid up during periods of increased military spending. The rise in wage growth then leads to expectations of faster inflation and the cycle is repeated with higher inflation resulting.

C. THE ISSUE OF EMPLOYMENT

There is disagreement among analysts over the effects of defense spending on the economy, but it is clear to most that the employment created by military spending greatly influences the nation's defense budget. Unlike federal expenditures in the form of transfer payments such as social security and

unemployment benefits that have a geographically diffused impact, military spending for goods and services affects a specific area. A member of Congress can demonstrate his or her political effectiveness back home by lobbying for increased military spending in his or her state or district. Senator John Tower, Chairman of the Armed Services Committee, once wrote [Ref. 68]:

> Some Senators . . . have asserted that defense spending has an adverse effect on efforts to improve the current unemployment situation in this country. This rationale, if accurate would lead us to believe that defense spending results in little or no economic benefit. I find this to be a most intriguing argument when, in one breath, Senators will argue for reductions in defense, and then, in another breath, will argue just as strongly that such reductions should not be made in programs located in their states.

The Reagan buildup will have a significant influence on employment levels for specific occupations as well as for the country as a whole. Major defense programs initiated during the Reagan years will require funding well into the twenty-first century thus altering the employment picture for many years to come. This section will address two very important issues concerning the Reagan buildup and its relationship to employment: 1) The effect of the defense buildup on the cost of skilled labor and professionals which are also needed by the civilian sector of the economy; 2) Whether the increased funds for military spending will create as many jobs as other federal spending programs. It is important for the American public and its governmental leaders to understand these issues

and to be aware of the employment effects of defense spending when engaged in a debate over the consequences of the defense spending levels required to safeguard the nation's national security. The pace of the Reagan buildup coupled with the reduction of funds for nondefense programs makes these issues especially important in the early 1980's. Defense outlays, expressed in 1972 constant percentages, have increased from 21.9 percent of total federal budget outlays in 1980 to 24.5 percent in 1984 [Ref. 69]. This change in funding allocations represents a twelve percent increase with higher percentages projected for the years ahead.

Addressing the issue of skilled labor shortages, Lester Thurow [Ref. 70] argues that he perceives the economy as one with shortages of skilled labor and technical talent, where workers wages would rise significantly as the civilian and defense sectors compete for their skills. Thurow further states that the diversion of engineering talent to the defense industry will weaken U.S. technological competitiveness with Japan and Western Europe. This aspect of the employment issue will be addressed in the next section concerning the effects of defense expenditures and long run growth. In making his argument, Thurow does explain that much of the debate over this issue is based more on intuition than on sound analysis. Historical employment data relating to defense buildups comparable to the size that Reagan proposes pertain to periods of crisis, not the managed and well-planned expenditure increases

of the 1980's. Thurow added that due to the lack of hard data, many of his own thoughts and conclusions concerning the effects of defense spending on the U.S. pool of scientists and engineers, are based on his subjective observations about the effects of defense spending on high technology firms in the Boston, Masachusetts area.

Michael Gordon, a staff correspondent on defense issues for the National Journal, concurs with Thurow and has written [Ref. 71] that although most economists agree that there may be a shortage of engineers and computer specialists, precisely the type of people needed by the defense industry, the lack of hard data concerning the effects of what Reagan's increased military spending might have on this pool of labor makes it very difficult to evaluate the economic consequences.

In an effort to determine the actual effects of the Reagan buildup on employment for professionals and skilled workers, the Congressional Budget Office conducted research on this subject in 1983 [Ref. 72]. The study reported that although there appeared to be few, if any skill shortages in the slack economy of 1982-1983, future shortages may develop for some types of engineers, computer specialists, and skilled craftsmen such as machinists and tool and die makers. However, the CBO research also found that the supply of professionals and skilled workers in these disciplines is increasing in response to the growing demand. Past unemployment rates for professional and skilled workers as classified by the CBO are shown in Tables 6,

TABLE 6

UNEMPLOYMENT OF COMPUTER SPECIALISTS, SCIENTISTS, AND ENGINEERS (By percentage for calendar year)

YEAR	COMPUTER SPECIALIST	SCIENTISTS	TOTAL ENGINEERS	AEROSPACE ENGINEERS
1964	--	--	1.4	1.5
1965	--	--	1.0	1.6
1966	--	--	0.7	0.0
1967	--	--	0.8	0.0
1968	--	0.9	0.7	0.0
1969	--	0.5	0.8	2.4
1970	--	1.0	2.2	6.4
1971	2.9	3.1	2.8	6.3
1972	1.4	2.5	1.0	1.9
1973	1.0	1.9	1.0	1.9
1974	1.3	1.2	1.0	1.9
1975	1.9	1.8	2.7	1.9
1976	1.5	2.1	2.1	1.9
1977	1.9	2.5	1.3	1.8
1978	1.0	2.2	1.2	1.7
1979	1.1	2.7	1.2	0.0
1980	1.5	2.3	1.3	2.7
1981	1.1	2.8	1.5	0.3
1982	1.5	3.1	2.4	2.0

Source: Bureau of Labor Statistics

Note: (--) Data not available

Table 7. As can be seen from the tables, unemployment rates generally begin increasing by 1982, indicating that even with the Reagan buildup well underway, there existed a small degree of slack in the areas of employment considered to be the most critical. The study also noted that the National Center for Educational Statistics, projects that in contrast to overall declining college enrollments, the number of students graduating with engineering degrees will increase by forty percent between 1979 and 1985. Additionally, the number of students with bachelor's degrees in computer and information science has expanded by sixty-seven percent between 1972 and 1980. The CBO's research revealed that past shortfalls of skilled machinists tool-and-die makers have spawned innovative changes in work patterns, with automated machinery, operated with less skilled workers, being substituted for scarce journeymen. It is predicted that if a prolonged shortage of skilled workers were to develop, similar work improvement methods would be adapted thus reducing inflationary wage pressures. The study concludes that any general "bidding up" of wages for skilled workers and professionals resulting from a temporary shortage would be met by an increased labor supply due to a properly functioning, free market system.

The question of whether or not military spending creates as many jobs as other spending programs has received much attention. Conducted research finds most analysts generally agreeing that on a macroeconomic level, a dollar spent on defense

TABLE 7

UNEMPLOYMENT OF CRAFT WORKERS, BY TYPE OF WORKER
(By percentage for calendar year)

YEAR	MACHINISTS AND JOB SETTERS	TOOL AND DIE MAKERS
1964	2.7	1.5
1965	1.6	1.1
1966	1.7	0.5
1967	1.4	0.9
1968	1.5	2.0
1969	1.3	1.4
1970	4.9	3.5
1971	5.1	4.6
1972	3.5	3.7
1973	1.8	1.6
1974	4.9	2.2
1975	7.2	7.9
1976	6.0	3.1
1977	3.7	2.0
1978	3.0	2.2
1979	2.7	1.1
1980	6.7	2.7
1981	6.3	5.6
1982	12.4	5.2

Source: Bureau of Labor Statistics

purchases will result in the same number of jobs as a dollar spent on nondefense purchases. Rudolph Penner, Director Congressional Budget Offices, stated in Congressional testimony [Ref. 73] that "shifts between defense and nondefense purchases have only negligible employment effects." Penner explained that simulations using the models of Data Resources Inc., and Wharton Econometric Forecasting Associates show that increases in overall defense or nondefense spending on goods and services have about the same overall effect. Penner also noted that many forms of defense spending are very similar to nondefense forms. As an example, the macroeconomic effects of constructing an aircraft runway are very similar to the effects of constructing a highway. David Chu, Director of Program Analysis and Evaluation in the Office of the Secretary of Defense also testified in Congressional Hearings [Ref. 74] that ". . . there is no difference on average in the number of jobs created by defense and nondefense Federal purchases." Mr. Chu reported that DoD and non-DoD economic forecasting models conclude that a shift in the composition of federal outlays from nondefense spending towards defense spending does not reduce employment, or put another way, a dollar spent on defense purchases will yield the same number of jobs as a dollar spent on nondefense purchases. A Congressional Budget Office study reported [Ref. 75] that an additional ten billion dollars in defense spending could create up to 250,000 additional jobs and that the same ten billion dollars spent on nondefense purchases in the public

and private sector could create almost 250,000 jobs. Noted military spending critic Robert DeGrasse, agrees with others on this matter. He has stated in Congressional testimony [Ref. 76] that if you spend one billion dollars in mass transit production versus one billion in military spending, the level of jobs created will be about the same.

D. THE ISSUE OF LONG RUN GROWTH

Long run economic growth has always been a national policy goal. Increased growth is generally accepted to be dependent upon advances in productivity and technology allowing for an increased level of production in the quantities of goods and services made available. Additionally, the concept of long run growth may be viewed to include changes in leisure time, vacation lengths and retirement ages for the American worker.

Almost every government spending program has some effect on the long run growth of the economy. There are those who believe that unlike most federal spending programs, defense spending absorbs resources that could otherwise be employed to produce goods and services thus adversely affecting the long run growth of the economy. An expert on productivity and economic growth, Professor Seymour Melman [Ref. 77] notes that since the military budget is used to purchase resources such as tools, energy, raw material, skilled labor and managers, it is effectively a capital fund. According to Melman, the capital fund concept for military budgets is equivalent to the private industry's term of capital which is understood to be composed

of fixed and working capital. In testimony submitted before a Congressional Task Force on Economic Policy and Growth, Professor Melman writes [Ref. 78]:

> . . . . A large ratio of military to civilian capital formation drains the civilian economy. The viability of the United States as an industrial society is threatened by the concentration of capital in a fund that yields no product useful for consumption or for further production. This looting of the means of production on behalf of the military economy can only be accelerated as a consequence of the unprecedented size of war budgets advocated by the Reagan Administration.

Professor Melman also points out in his testimony that since the product of defense spending does not yield products for further production, there is an absence of marginal productivity of capital. The gradual improvements in the production process associated with products that can be used for further production are not possible. As an example, Melman notes that a nuclear powered submarine or a modern fighter plane is a technological masterpiece, but neither can be used for further production. [Ref. 79]

An additional argument expressed in the debate over defense spending and its effects on long run growth pertains to the belief that the United States will experience a decreased level of technological competitiveness for its products on the world market. Testifying before Congress in 1983, DeGrasse [Ref. 80] stated that approximately thirty percent of the Nation's scientists and engineers were working for defense-related projects. DeGrasse further explained that by having such an important group of people unavailable to develop

civilian technologies, U.S. products will be less competitive on the world market, thereby reducing overall growth.

Other analysts would disagree with Melman and DeGrasse and suggest that defense spending has beneficial effects on productivity and long term growth. They argue that while it is true that defense spending employs much of the nation's scarce scientific and engineering talent and considerable capital, mnay research and development efforts sponsored by the DoD yield knowledge that proves valuable in civilian production. In his book, The Economics of Peacetime Defense, Murray Weidenbaum writes [Ref. 81], ". . . defense spending has been making a substantial contribution to technological developments of great importance to our economy." Technologies that have been cited as having profited from military spending spillovers include: aerodynamics, jet engines, computers, electronics, numerically controlled machine tools, lasers and nuclear power [Ref. 82].

There are two broad reasons generally voiced to explain how military spending enhances civilian sector technology [Ref. 83]. One theory holds that advanced military requirements continually encourages scientists and engineers to improve the existing "state of the art." Senior Pentagon economist, David Blond [Ref. 84], comments:

> Defense sets goals that are difficult to meet; and our new programs often tax the limits of technology. Only the Department of Defense's budget is rich enough to experiment with new approaches to complex problems. It is my belief that we cannot foretell exactly the

> future path that technology must take in the quest for new commercial applications and solutions to nondefense problems. In the same sense that we seed the clouds in the hope for rain, so too we seed our research laboratories in the hope for finding solutions to difficult problems.

The second theory views defense spending as a source of demand for new products. The logic behind this theory is that by providing an initial market and premium prices for major advances, defense purchases have speeded the introduction of new technologies. Several good examples of innovations that have benefited from defense purchases when the price was significantly higher than private industry was willing to pay are transistors and integrated circuits. Initial purchases such as these by the defense department have allowed manufacturers to improve their productivity through better production methods and reduced cost via the concept of marginal productivity.

The U.S. Department of Labor, Bureau of Labor Statistics publishes indexes of output per hour of all persons and related measures for different sectors of the economy to include the private business sector and the manufacturing sector. These productivity measurements show the relationship between gross product originating in these sectors and output per hour of all persons. The measurements are used to obtain an overall measure of productivity growth for respective sectors of the economy.

The data in Table 8 shows the productivity measurements for the business and manufacturing sectors. An analysis of the productivity data for both sectors reveals that productivity has dramatically slowed in the 1970's, at a time when defense

TABLE 8

PRODUCTIVITY; BUSINESS AND MANUFACTURING SECTORS
(1977 = 100)

YEAR	BUSINESS PRODUCTIVITY	PERCENT CHANGE	MANUFACTURING PRODUCTIVITY	PERCENT CHANGE
1950	49.7		49.4	
1960	64.8	30.4	60.0	21.5
1970	86.1	32.9	79.2	32.0
1973	94.8	10.1	93.0	17.4
1974	92.5	-2.4	90.8	-2.3
1975	94.5	2.2	93.4	2.9
1976	97.6	3.3	97.6	4.5
1977	100.0	2.5	100.0	2.5
1978	100.5	0.5	100.9	0.9
1979	99.3	-1.2	101.6	0.7
1980	98.7	-0.6	101.7	0.1
1981	100.6	1.9	104.9	3.1
1982	100.8	0.2	107.1	2.1
1983	103.7	2.9	111.6	4.2
1984	107.4	3.6	115.0 (est)	3.0

Source: 1) (Years 1950-1983), Handbook of Labor Statistics; U.S. Department of Labor, Bureau of Labor Statistics, June 1985, Bulletin 2217, p. 233

2) (Year 1984), Economic Indicators, prepared for the Joint Economic Committee by the Council of Economic Advisors, August 1985, p. 16

spending was on a long downturn. Especially interesting is that productivity levels in both sectors begin to increase in 1981 and have continued to do so during the Reagan buildup. In the Economic Report of the President, transmitted to the Congress in February 1985, President Reagan reported [Ref. 85], "Productivity growth in the business sector has averaged 2.2 percent since the fourth quarter of 1980, compared with a rate of less than 0.3 percent over the prior 4 years."

The actual productivity data is at odds with the predictions of Professor Melman. It is clear that there must be many factors affecting the rates of productivity and long run growth with defense spending being just one of those factors, not the overriding influence.

E. SUMMARY

A proper understanding of the effects of defense spending on the economy is necessary for decision makers and the general public. This knowledge is required in order that less than accurate assumptions or predictions concerning the economic effects of defense spending may be identified and disputed as such. This chapter has shown that the actual economic data achieved during the years of the Reagan buildup under study (1980 - 1984), pertaining to inflation, employment and long run economic growth does not necessarily support the theories of noted analysts.

The bottleneck induced cost increases associated with past defense buildups have not presented themselves as predicted.

Likewise, in the area of employment, few skill shortages have developed and those employed in skills and professions identified as critical in the defense effort are expanding their numbers rapidly. It was also noted that on a macro level, defense spending will create the same number of jobs as non-defense spending. Finally, long run economic growth was shown to have greatly increased despite predictions to the contrary.

IV. DEFENSE SPENDING AND BUDGET DEFICITS

A. INTRODUCTION

Current federal government deficits are viewed by the nation's political leaders and a growing majority of the American public to be the number one issue facing the nation, posing an extreme threat to the nation's economic survival. These large deficits are driving up interest rates, adversely affecting American exports, turning the United States into a debtor nation and have cuased the interest component of the federal budget to be its fastest growing segment.

The early Congressional and public support for the Reagan defense buildup has waned due to the increased awareness of the consequences of persistent deficits on the economy. A recent Gallup Poll conducted in June 1985 [Ref. 86] indicates that the public is increasingly giving highest priority to cuts in defense spending to reduce the deficit. The survey found that, of those polled, 81 percent characterized the federal debt as a serious problem with a majority of Americans, 66 percent favoring cuts in defense spending as a deficit reduction measure. The percentage of the public favoring defense spending cuts is up from a recorded 61 percent in December 1984 and from 57 percent in January 1983. A significant finding of the survey was that 39 percent favored cuts in government spending for social programs, representing a decrease

from the 41 percent recorded in both 1984 and 1983. This change of public attitude towards social program spending, has added further pressure to decrease the defense budget as a means to reduce federal deficits.

The American public's shift in attitude favoring a reduction in defense spending will jeopardize the President's program to rebuild the nation's armed forces. This change in the public's attitude has been influenced in part by those who feel that defense cuts must be made in order to achieve domestic spending cuts, or that the defense department has not contributed its fair share to deficit reductions. The current Director of the Economic Studies program at Brookings and past Director of the Congressional Budget Office from 1975 to 1983, Alice M. Rivlin [Ref. 87], has explained that defense outlays account for 30 percent of all federal spending and are an obvious source of possible deficit reductions. Rivlin has further expressed that "The nation needs and can afford a strong defense, but the rapid defense buildup advocated by the Reagan administration is both unjustified and unwise." Others, such as Alfred S. Eichner, a Professor of Economics at Rutgers University and Director of the Center for Economic Research [Ref. 88], has written that defense spending can be reduced significantly without any weakening of the nation's ability to defend itself. Eichner explains that the sums saved can be used to bring federal outlays more closely in line with tax

revenues. Another viewpoint as expressed by Richard Barnard, the Editor of Defense Week [Ref. 89] calls for limiting defense budget increases to only four percent a year for four consecutive years as a way to reduce the deficits.

This chapter will examine the issue of defense spending and federal budget deficits. While it is true that the current defense buildup is an important contributing factor in the growth of the federal debt, a proper understanding of the relationship between defense spending and budget deficits must include a study of the relative sizes of past and present defense budgets as compared to nondefense spending programs. The federal budgetary data suggests that President Reagan's plan for rebuilding America's defenses should not be held as the scapegoat for the current deficits and therefore, should not be the prime target for budgetary decreases.

The examination of this issue will begin with a review of federal deficit growth. A discussion of the economic consequences resulting from persistent large budget deficits will follow. The chapter will continue with a description of budgetary outlay trends as influenced by their degree of controllability. Chapter IV will conclude by addressing the call for defense cuts in the name of deficit reduction.

B. FEDERAL DEFICIT GROWTH

Though the federal budget has shown a suprlus in only eight of the forty years since World War II, the deficits prior to 1982 were much smaller in relation to the size of the

economy. From 1965 to 1981 the deficits averaged 1.7 percent of GNP. Now, however, the federal deficit is stuck at about 5 percent of GNP. [Ref. 90]

Former United States Secretary of the Treasury, William E. Simon, has described the growth of the federal debt in a recent speech by stating:

> . . . . This conservative president came into office with a national debt approaching one trillion dollars, and in four short years had added $700 billion more to it. This is incredible because at this rate, before he leaves office he will have been responsible for producing more of the national debt than all 39 presidents who preceded him in the 200 years of the presidency. [Ref. 91]

In order to fully understand and appreciate the immense magnitudes of the current deficits, actual and projected federal budgetary data are presented in Table 9 in billions of current dollars and in Table 10 as a percentage of GNP. The data clearly shows the unprecedented growth in the level of deficits as already having occurred and as projected during the Reagan Administration. In fiscal year 1981 the deficit was about $58 billion, or approximately 2 percent of GNP. In only two years it had tripled, reaching $195 billion or approximately 6 percent of GNP in 1983. The cumulative effect of the deficits on the nation's debt as commonly measured by the amount of debt held by the public, has been staggering. From the end of 1980 to the end of 1984, this measure grew by about 85 percent. By the end of 1989 it is projected to grow by another 85 percent. At current rates, the nation's total debt will almost quadruple during the 1980's. [Ref. 92]

TABLE 9

REVENUES, OUTLAYS, DEFICITS, AND DEBT HELD BY THE PUBLIC
(By fiscal year, in billions of dollars)

YEAR	REVENUES	UNIFIED OUTLAYS	SURPLUS OR DEFICIT *	DEBT HELD BY THE PUBLIC
1965	116.8	118.4	-1.6	261.6
1970	192.8	195.7	-2.8	284.9
1975	279.1	324.2	-45.2	396.9
1976	298.1	364.5	-66.4	480.3
1977	355.6	400.5	-44.9	551.8
1978	399.6	448.4	-48.8	610.9
1979	463.3	491.0	-27.7	644.6
1980	517.1	576.7	-59.6	715.1
1981	599.3	657.2	-57.9	794.4
1982	617.8	728.4	-100.6	924.4
1983	600.6	796.0	-195.4	1,141.8
1984	666.5	841.8	-175.3	1,312.6
1985P	735.0	938.0	-203.0	1,526.0
1986P	788.0	995.0	-206.0	1,740.0
1987P	855.0	1,080.0	-225.0	1,972.0
1988P	934.0	1,174.0	-240.0	2,220.0
1989P	1,005.0	1,270.0	-266.0	2,490.0
1990P	1,088.0	1,378.0	-290.0	2,786.0

Source: The Economic and Budget Outlook: Fiscal Years 1986-1990; The Congressional Budget Office, February 1985, p. 159

Notes: 1) * Does not reflect the minor adjustments from off budget outlays such as the Postal Service, the Federal Financing Bank, or the Strategic Petroleum Reserve

2) P = CNO projections

TABLE 10

REVENUES, OUTLAYS, DEFICITS, AND DEBT HELD BY THE PUBLIC
(By fiscal year, as a percent of GNP)

YEAR	REVENUES	UNIFIED OUTLAYS	SURPLUS OR DEFICIT *	DEBT HELD BY THE PUBLIC
1965	17.7	17.9	-0.2	39.6
1970	19.9	20.2	-0.3	29.4
1975	18.9	21.9	-3.6	26.8
1976	18.1	22.2	-4.0	29.2
1977	19.1	21.5	-2.4	29.6
1978	19.1	21.4	-2.3	29.2
1979	19.6	20.8	-1.2	27.3
1980	20.1	22.4	-2.3	27.8
1981	20.8	22.8	-2.0	27.5
1982	20.3	23.9	-3.6	30.5
1983	18.6	24.7	-6.1	35.4
1984	18.6	23.5	-4.9	36.7
1985P	19.1	24.3	-5.3	39.6
1986P	19.0	23.9	-5.0	41.8
1987P	19.1	24.1	-5.0	44.0
1988P	19.3	24.3	-5.0	46.0
1989P	19.3	24.4	-5.1	47.9
1990P	19.4	24.6	-5.2	49.7

Source: The Economic and Budget Outlook: Fiscal Years 1986-1990; The Congressional Budget Office, February 1985, p. 160

Notes: 1) * Does not reflect the minor adjustments from off budget outlays such as the Postal Service, the Federal Financing Bank, or the Strategic Petroleum Reserve

2) P = CBO projections

The tremendous growth in the deficits cannot be attributed to a single cause. In addition to increased levels of federal outlays, there are at least two other major factors that have contributed to the growth of the deficits; 1) a reduced level of tax revenues during the 1980 to 1984 period resulting from changes to the tax laws, and 2) the effects on both the revenue and spending components of the federal budget as influenced by the 1981-1982 recession.

Shortly after assuming office, President Reagan and his newly appointed Director of the Office of Management and Budget, David Stockman, implemented what became known as the "supply-side" theory of economics. The President and his OMB Director were confident that it was possible to raise defense spending, cut income taxes, and balance the federal budget at the same time using this approach. The cornerstone of the new supply-side approach was a significant reduction of income taxes, coupled with tight monetary control. It was felt that by displacing the growth of the government with a robust level of growth in the private sector, marketplace developments would allow increased defense expenditures to coexist with a balanced federal budget. [Ref. 93]

The large tax cuts that followed helped reduce federal tax receipts as a share of GNP from 20.1 percent of GNP in 1980 to 18.6 percent in 1984. This reflected the Economic Recovery Tax Act (ERTA), that was signed into law in August 1981, and legistlated sweeping changes in both the individual

and corporation income tax systems. The act, the largest tax reduction in U.S. history resulted in an across the board reduction in individual income tax rates amounting to 23 percent at the end of three years, and an immediate cut in the top bracket rate from 70 to 50 percent. The law also established that beginning in 1985, the tax brackets and exemption amounts would be indexed annually for inflation. The indexing of income tax brackets to adjust for inflation would prevent the erosion of the ERTA tax reductions by insuring that inflation would not push individuals into higher tax brackets. [Ref. 94]

Tax revenues, entitlements and other mandatory spending levels were also affected by the 1981-1982 recession in which actual inflation and economic growth figures deviated from projected amounts. A former Air Force Comptroller and presently the Military Assistant for Economics, (OSD) LTC Stephen Russell, USAF [Ref. 95] points out that the very restrictive monetary policy of 1981 imposed by the independent Federal Reserve Board in an effort to reduce the high inflation and interest rates of the late 1970's, generated the deep recession resulting in deviations of actual economic performance from those planned by the Reagan Administration. Russell notes that during the years of 1982 and 1983, both inflation and economic growth rates were much lower than projected, and that these deviations of actual economic performance from the Reagan plan have had a significant impact

on the deficit picture. Instead of a projected growth rate of 5.2 percent for 1982, the actual growth was a negative 1.2 percent. And the actual rate of inflation for 1982 was three points below that predicted by the administration. The rationale for this economic behavior is found in the Economic Report of the President, February 1983:

> Falling inflation rates will impact on revenues more than on expenditures because the personal income tax structure is progressive; hence actual inflation rates below plan tend to raise the deficit.
>
> A slowing of economic growth (and the correspondent rise in the unemployment rate) will cause revenues to fall because the tax base shrinks and expenditures to rise automatically as unemployment-sensitive outlays expand. (A one percentage point change in the unemployment rate alters the yearly deficit by $25 billion.) [Ref. 96]

C. DEFICITS AND ECONOMIC CONSEQUENCES

Discussing the effects of the deficits on the economy, Rudolph Penner, the Director of the Congressional Budget Office [Ref. 97], stated in Congressional testimony that the exact economic consequences of the current large deficits are hard to assess because the ratio of the deficit to GNP is far higher for a sustained period than any period since World War II. Penner explained that since the policy variables are outside of the range of historical experience, analysts cannot assume with confidence that empirical relationships estimated on the basis of past data will remain relevant to analyses of the current situation. Penner's viewpoint was further expressed in a recent CBO study on the deficit issue

which reported that "the government is on a course for which our country's history provides no charts" [Ref. 98].

While controversy exists regarding the exact magnitude of the adverse economic consequences of the budget deficits, there is general agreement by many including the CBO, that if the large budget deficits persist, the long run detrimental effects could be significant. One of the nation's leading conservative economists, Martin Feldstein [Ref. 99], has written that continued large deficits will mean a slower rate of economic growth and a lowered standard of living. Feldstein explains that the key to raising living standards is investment. The higher productivity that results from investments in new factories, machinery and equipment permits the non-inflationary increases in wages and salaries that enable employees to afford a higher standard of living. In Feldstein's opinion, large budget deficits will undermine such investment increases because they require the government to borrow funds that would otherwise be available to finance investments in plant and equipment. This phnomenon has introduced a new economic buzzword called "crowding-out." Crowding out as described by U.S. Representative Geraldine Ferraro [Ref. 100] occurs when federal borrowing absorbs so much of the available credit that private investment is adversely affected, either by higher interest rates or the lack of funds to borrow. Over time this would have significant effects on the size of the private capital stock, and as a consequence, productivity, the source of rising living standards, would begin to fall.

One CBO study [Ref. 101] noted that the crowding out of private investment could be mitigated and even eliminated by inflows from international capital markets. This observation by the CBO has in fact already occurred. Feldstein [Ref. 102] explains that the government borrowing to finance the deficit has resulted in high interest rates in this country, which in turn have attracted funds to the U.S. from abroad, thus adding to the pool of funds available to finance desired private investment. He notes that capital inflow from abroad will be enough to offset half of the government's borrowing needs for fiscal year 1985. He warns, however, that the current level of capital inflow cannot be sustained. Even with high interest rates, foreign investors will eventually become saturated with dollar securities. When this happens, investment in the U.S. will decline due to the crowding out effect. Van de Water and Ruffin [Ref. 103], Chief and Senior CBO analysts, agree with Feldstein and further warn that "While this large volume of borrowing from abroad allows the U.S. to maintain a higher rate of investment, it gives foreigners claim to the fruits of that investment and makes the U.S. economy hostage to the confidence of foreign investors."

Large budget deficits have also signficiantly contributed to a sharply fallen U.S. balance of trade account. The account position declined from a deficit of about $42 billion in 1983 to a deficit of over $100 billion for 1984 [Ref. 104]. Rivlin [Ref. 105] has suggested that since high interest rates

have increased the demand of U.S. dollars on foreign markets, the exchange value of the dollar has risen sharply in the last several years. This has had the effect of making U.S. exports more expensive for foreigners and foreign goods and services cheaper for Americans. Consequently, output and employment in industries facing foreign competition have suffered. In response to this situation increased calls for trade protection and other types of market intervention are being voiced by the American work force.

A third area of grave concern among budget analysts is the fact that the interest payments required to service the deficits have soared. During the past ten years, net interest costs have grown from 23 billion dollars to about 130 billion, or expressed as a percent of total budget outlays, from 7.0 percent in 1975 to 13.7 percent in 1985. By 1990, if revenue and spending patterns remain unchanged, the Congressional Budget Office has predicted that interest expense will reach 230 billion dollars or 16.6 percent of total outlays. As the fastest growing segment of the federal budget, interest outlays are consuming an increasing fraction of taxpayers dollars at the expense of other spending priorities. [Ref. 106]

D. FEDERAL BUDGETARY OUTLAYS

1. General

The years from 1960 to 1980 witnessed a dramatic decline in spending for national defense as a proportion of total

budget outlays. The significant shift in the composition of federal expenditures primarily resulted from the combination of the anti-Vietname War movement that persisted in the country and the very rapid growth of social spending programs. In the mid 1960's, President Johnson's "Great Society" programs such as medicare, medicade, and federal aid to education grew substantially. In the 1970's, additional non-defense spending growth came in the form of income security program increases, such as social security benefits, supplemental security income, and food stamps. An important implication of this spending trend was that as the percentage of total budget outlays for these open-ended entitlement programs increased, the amount of federal budget outlays classified as controllable and made available to Congress for budgetary deficit reduction action actually decreased. [Ref. 107]

Under President Reagan, a reversal in the composition of federal budgetary outlays has occurred resulting in a reduced level of spending for non-defense programs and an increased level of spending for national defense. Through hard fought legislative action, the Administration has been successful in eliminating, and/or greatly reducing benefit levels for many social programs. This redirection of federal expenditures reflects the Reagan Administration's commitment to reduce the burden of government domestic spending while improving the nation's military forces. Though the current levels of defense spending have substantially increased

under President Reagan, they still remain lower as a percent of total budget outlays as compared to the defense budgets of the 1960's. However, the public's mounting concern over the growing size and resulting adverse economic consequences of the federal deficits has resulted in the Administration's defense budget requests becoming increasingly vulnerable to Congressional cuts.

In order to better understand the issues in the defense spending debate pertaining to President Reagan's defense buildup and the current budget deficits, a review of the effect that budget controllability has on federal outlay composition, and a comparison of budgetary trends in defense and non-defense federal spending over a long time horizon are necessary.

2. Budget Outlay Controllability

As defined by Lance T. Leloup [Ref. 108] in his book Budgetary Politics, federal spending is classified as uncontrollable if it is mandated under current law or by a previous obligation. This means that Congressional legislation, not the President's budget or an appropriation bill, must be changed in order to alter the composition of budget outlays falling into this category.

The purpose of categorizing budget outlays in terms of controllable or noncontrollable is to provide budget users with information about the relative ease or difficulty in implementing budget reductions in order to change the

magnitude of federal outlays. Obviously, in the long run all federal spending is ultimately controllable. However, the nature or degree of controllability differs significantly between budget programs. For example, it would be very difficult to imagine the government defaulting on the national debt, halting all long term projects, or eliminating all government pensions. Uncontrollable programs would include the interest on the national debt, public housing loans, multi-year contracts and obligations, entitlement programs and payments to states and individuals. Controllable portions of the federal budget include salaries and employee benefits, general operating expenses, research and new programs. [Ref. 109]

A review of the relative controllability of federal budget outlays over the past twenty years indicates that the growth in total federal spending during this period is almost completely attributable to growth in uncontrollable items. From Table 11, it can be seen that in 1967, outlays classified as uncontrollable comprised 57 percent of total outlays. By 1986, uncontrollable spending will have increased by 35 percent, comprising approximately 77 percent of the total budget outlays. During this same period, controllable spending comprising 47 percent of total budget outlays in 1967, will have declined by 45 percent, comprising only 26 percent of total budget outlays in 1986.

The significant growth in uncontrollable spending has been the result of many factors. As the largest component of

TABLE 11

CONTROLLABILITY OF BUDGET OUTLAYS
(By fiscal year, as a percent of total outlays)

YEAR	RELATIVELY UNCONTROLLABLE OUTLAYS	RELATIVELY CONTROLLABLE OUTLAYS	OTHER OUTLAY
1967	58.0	47.3	-4.2
1968	58.0	46.0	-4.0
1969	61.1	43.1	-4.1
1970	61.5	42.9	-4.3
1971	63.0	41.3	-4.3
1972	63.0	41.1	-4.0
1973	66.9	37.0	-3.8
1974	68.4	34.8	-3.2
1975	66.9	34.1	-1.0
1976	67.3	33.9	-1.2
1977	67.2	33.7	-1.0
1978	68.7	32.0	-0.6
1979	68.6	31.8	-0.3
1980	70.0	30.2	-0.3
1981	70.2	29.3	0.5
1982	72.6	27.7	-0.4
1983	73.4	28.0	-1.4
1984	73.3	28.5	-1.8
1985 (est)	72.6	28.9	-1.5
1986 (est)	76.6	26.2	-2.7

Source: Historical Tables, Budget of the U.S. Government 1985, Section 8, p. 8.1(1)-8.1(8)

uncontrollable spending, entitlement programs commit the federal government to pay certain benefits to individuals if they are eligible. Depending upon the program, eligibility requirements are determined by the federal government or by the individual states. Many of these programs are open ended with outlays increasing as much as necessary to pay persons who are entitled to receive benefits. Additionally, automatic spending increases over the years due to built-in cost of living escalators designed to increase both benefit levels and coverage, have allowed these programs to further increase uncontrollable spending. Other contributing programs such as the rising interest cost to service the national debt, and the federal/state matching of funds for various programs have increased the level of uncontrollable spending. [Ref. 110]

The majority of federal spending programs classified as uncontrollable have two very important aspects in common; 1) Many of these programs automatically increase outlays without the need for legislative action, thus increasing the uncontrollable portion of the federal budget, and 2) Once implemented, these programs are politically very difficult to cut back. This second aspect of uncontrollable spending programs has had a significant effect on the measures introduced by Congress to reduce the current levels of federal deficits.

Deficit reduction measures having the fastest impact in the effort to reduce the deficits are generally comprised of spending cuts made from the controllable portion of the

federal budget. Unlike the uncontrollable portion of the budget, legislative action is not required to impose a reduced level of spending. This has made the defense budget especially vulnerable for spending cuts. Defense outlays make up the largest segment of the federal budget classified as controllable because of the high proportion of outlays marked for the salaries and benefits of military and civilian defense department employees, and large annual general operating outlays [Ref. 111]. Since the majority of federal budgetary outlays classified as controllable are in the area of national defense, the defense department has become the prime target for major budget cuts in the effort to reduce the federal deficits.

3. Trends in Defense and Non-Defense Outlays

The composition of federal spending has changed considerably over the past twenty years. These changes reflect the desires of the American public as well as the effects of the budget controllability concept on the total outlays of the federal budget. A comparison of trends in defense and non-defense federal spending over this period as shown in Table 12, clearly shows the growth of non-defense outlays at the expense of outlays for national defense. Between 1967 and 1986, defense outlays are expected to decrease as a percent of total budget outlays by 35 percent; non-defense outlays for individuals and grants to state and local governments to increase by over 50 percent, and the fastest growing component of the federal budget, net interest will grow by 135 percent.

TABLE 12

DEFENSE AND NON-DEFENSE OUTLAY TRENDS
(By fiscal year, as a percent of budget outlays)

YEAR	NATIONAL DEFENSE	NON-DEFENSE OUTLAYS: INDIVIDUALS AND LOCAL/STATE GOVT	NON-DEFENSE OUTLAYS: NET INTEREST	NON-DEFENSE OUTLAYS: OTHER
1967	45.4	33.8	6.5	14.3
1968	46.0	34.8	6.2	13.0
1969	44.9	38.2	6.9	10.0
1970	41.8	40.9	7.3	10.0
1971	37.5	46.6	7.1	8.8
1972	34.3	49.2	6.7	9.8
1973	31.2	53.9	7.1	7.8
1974	29.5	55.3	8.0	7.2
1975	26.0	56.2	7.0	10.8
1976	24.1	59.0	7.2	9.7
1977	23.8	59.3	7.3	9.6
1978	22.8	57.7	7.7	11.8
1979	23.1	57.3	8.5	10.8
1980	22.7	57.1	8.9	11.3
1981	23.2	56.2	10.1	10.5
1982	24.9	54.5	11.4	9.2
1983	26.0	55.2	11.1	7.7
1984	26.0	55.2	11.1	7.7
1985 (est)	26.5	50.8	13.6	9.1
1986 (est)	29.3	51.0	14.6	5.1
1967-1986 % change	-35.4	+50.8	+135.4	-65.0

Source: Historical Tables, Budget of the U.S. Government 1985, Section 6, p. 6.2(1)-6.2(8)

In 1984, 55 percent of all Federal government outlays were transfer payments to individuals or State and local governments. The speed at which this segment of the budget has grown over the past years reflects the entitlement character of many of the programs introduced or modified in the 1960's and 1970's. Some of the programs included in this category are social security, medicaid, medicare, food stamps, federal employee pensions, supplemental security income, unemployment insurance, farm price supports, general revenue sharing, revolving funds, and a large number of smaller trust funds [Ref. 112]. Congressional legislation did not appropriate a fixed amount of money for most of these programs, but only established rules that define benefit levels and eligibility. As a result, funding for many of these programs has become uncontrollable, with payments being required by public law to be made available to those qualifying for program benefits.

The members of the Congress who enacted these programs and the analysts who advised them frequently failed to estimate the future cost of the programs that they were creating. As an example, Medicare was introduced in 1966 and immediately experienced costs that were far greater than had been generally predicted. In 1966, medicare outlays were less than $0.1 billion. Ten years later in 1976, the program's outlays had grown to $17.8 billion. The program's costs are expected to growt to $76 billion dollars by 1986, and further jump to $119 billion by 1990. At this rate of growth, the program's

costs will have increased over 100,000 percent in just 25 years. [Ref. 113]

The Reagan Administration's legislative victories in reducing the growth of many social program benefits while successfully achieving Congressional approval for significant increases in defense spending have dramatically altered the composition of Federal budget outlays. After experiencing a 50 percent decrease in the percentage of budget outlays for defense spending from 1967 to 1980, the percentage of total budget outlays for national defense spending has increased from 1980 to 1984 by 14 percent. Likewise, transfer payments to individuals or State and local governments decreased from 1980 to 1984 by 3 percent after experiencing an increase of 69 percent from 1967 to 1980. This reversal in the composition of federal budget outlays is expected to continue. From 1984 to 1986, it is projected that defense spending will increase an additional 12 percent and that social spending programs will decrease by another 7 percent.

The comparison of trends in defense and non-defense federal spending over the 1967-1981 time frame clearly demonstrates that it is the tremendous growth in non-defense spending that has significantly contributed to the Federal deficits and not the recent increases in defense spending. As Defense Secretary Weinberger [Ref. 114] recently stated in a television interview, "The real cause of the deficit of the 1980's is the overspending on domestic programs during the 1970's. Real

spending on those programs more than doubled during that decade, while defense spending fell by 20 percent."

E. THE CALL FOR DEFENSE CUTS TO REDUCE DEFICITS

The increases in defense spending during President Reagan's first term in office, were initiated in response to the inadequate state of readiness in the nation's Armed Forces as confirmed during the SALT II hearings in 1979. Feeling that defense had been dangeously weakened by a decade of neglect, President Reagan with the overwhelming support of the American public, embarked this country on a plan to restore America's defenses. Four years later with the Reagan rearmament program far from complete, the prospect of continuing high federal deficits has resulted in calls to reduce the level of defense spending. Reagan's defense budgets have increasingly come under attack by those who say that domestic spending cuts are not possible unless defense is cut too, or that the defense department has not contributed its fair share to deficit reductions.

There is no question of the fact that the size of the federal deficits must decline. However, any deficit reduction measures calling for decreases in defense spending must be challenged. The defense budgets are driven by external threats to the nation's national security and should not be used as a fiscal policy tool. Past defense budget cuts during the 1970's resulted in the erosion of America's Armed Forces which significantly jeopardized world peace as the Soviet Union increasingly

tested its new-found military superiority. Additionally, history has shown that the Soviet Union did not take advantage of the reductions in U.S. defense spending to slow the pace of their arms buildup, nor should they be expected to do so in the future. As Secretary Weinberger has stated:

> The Soviets will be watching, and will continue to watch, to see whether the United States will again shortchange defense as we did in the 1970's . . . whether we will return to the days of a hollow army; of aging aircraft that could not fly for lack of maintenance; of ships that either had to put to sea without sufficient crews or ammunition, or remain tied up uselessly at their docks . . . to the days when we were not ready to respond in an emergency . . . or even to provide enough supplies to last for more than just a few days in any conflict that might be forced upon us. [Ref. 115]

Responding to those who advocate the popular viewpoint that the defense department must absorb its fair share of budget cuts, well-known columnist and past Chairman of the Council of Economic Advisors under Presidents Nixon and Ford, Herbert Stein [Ref. 116], has suggested that this philosophy must not include the defense department. Stein argues that the defense programs are not for the benefit of a specific section of the population in the same way that the agriculture program is for the benefit of farmers or the student loan program is for students; but instead are for the benefit of this generation and future generations of Americans. The real question of fairness in this debate as posed by Stein is "whether it is fair to risk the lives, fortunes and freedom of future generations in order to raise the consumption level of this generation by two percentage points or so."

From a purely economic standpoint, DoD sponsored research [Ref. 117] shows that cuts in defense spending would not translate into one-for-one reductions in federal deficits. This is because much of the defense department's outlays come back to the government in the form of taxes on income generated by a higher level of economic activity. It was found that only about fifty cents of each dollar cut from the defense budget would show up as a reduction in the deficit. This relationship results from two reasons: 1) As previously stated, the country would lose tax revenues from the workers displaced as a result of spending cuts or a defense freeze, and 2) Since many of the unemployed workers would not find new jobs right away, the uncontrollable costs associated with unemployment would go up.

It has also been argued that defense budget cuts initiated as a short run deficit reduction measure in actuality, tend to increase future defense cost. David S.C. Chu [Ref. 118] testifying before a Congressional Task Force on Economics and Growth, explained that when past defense reductions were required, the defense department was forced to postpone the start of new programs or stretch out existing ones. Chu states that in either case, reductions in outlays come at the expense of increased spending in future years. Additionally, when programs are stretched, the total defense costs are increased. With fewer units purchased each year, unit costs rise, and, ultimately, total spending levels.

F. SUMMARY

The popular idea that defense spending consumes a majority of total federal budget outlays, and that it is the principal cause of the federal deficits resist all factual information. Only recently has defense spending grown in relation to spending for social programs.

After a decade of neglect, the Reagan Administration has reversed the dangerous trends of defense cuts as experienced in the 1970's. As a result, the world today is a safer place with a restored balance of power existing between the two major superpowers. In this time of high budget deficits, it is incumbent upon the leaders of this nation to ensure that the defense budget is not used as a fiscal tool to help reduce a debt that has been twenty years in the making. The recent gains in military readiness must not be allowed to deteriorate. Current deficit reduction proposals should concentrate on measures designed to increase revenues while seeking further reductions in the levels of uncontrollable spending for social programs, and not on those that will seriously jeopardize the readiness of the nation's Armed Forces.

V. CONCLUSION

A. INTRODUCTION

This chapter contains the author's general conclusions concerning the debate over the consequences of President Reagan's defense buildup program on the U.S. economy and its relationship to the Federal debt. Additionally, the author makes recommendations of areas worthy of future research in connection with defense spending. The chapter concludes with the author's final observations concerning President Reagan's rearmament plan.

B. GENERAL CONCLUSIONS

In analyzing the effects of the increased levels of defense spending on the economy resulting from President Reagan's defense buildup for the period, fiscal years 1981 to 1985, this study shows that the increased defense expenditures did not burden the economy as predicted by many defense analysts. Critics had suggested that the increases in defense spending initiated by President Reagan would result in severe adverse economic consequences due to the economy's inability to absorb the sacle and pace of the President's rearmament plan. A comparison of projected data with actual economic data for the period under review, pertaining to the issues of inflation, employment and long run economic growth, shows that the actual

economic performance achieved by the economy is contrary to the economic performance as proposed by leading defense analysts.

The Reagan defense buildup has not increased the level of inflation as many analysts had predicted it would. Due to the excess industrial capacity that exists in the economy, the inflation rate has actually declined by over 100 percent during this period. Similarly, projections that shortages of skilled labor and technical talent would drive up the cost of labor did not occur. With the Reagan buildup well underway, a small degree of slack exists for the areas of employment considered to be the most critical. A properly functioning, free market system coupled with innovative changes in the work place to include an increased use of automated machinery have eased the labor situation. Finally, productivity as measured in the business and manufacturing sectors of the economy, has grown substantially over the recent years prior to fiscal year 1981. This increase in productivity has been attributed to the advances in technology resulting from DoD research. The DoD budget, large enough to afford a state-of-the-art research funding level, has resulted in significant technological improvements that have proved very valuable in civilian production.

In reviewing the relationship between defense spending and the Federal debt, an analysis of the composition of Federal spending over the past twenty years shows that contrary to public opinion, the current Federal debt is primarily a result

of the growth in uncontrollable spending for social programs and not increases in expenditures for national defense. This is not to say that defense expenditures have not contributed to the deficits, but to realize that in order to reduce the current deficits, substantial cuts must be further made in spending for uncontrollable social programs via legislative changes to levels of entitlements.

C. RECOMMENDATIONS OF AREAS FOR FURTHER RESEARCH

The subject of defense spending presents many possible topics worthy of additional research. Several related topics to the research presented in this study are recommended.

One area for study would be to expand the data as presented in Chapter IV. With the Reagan armament plan heavily weighted towards procurement, an analysis designed to determine the composition change of the defense budget in relation to budget uncontrollability could be performed. The study could attempt to determine the implications of such spending changes within the defense budget as efforts to reduce the defense budget as a federal deficit reduction measure intensify.

Another area of possible research would be to determine the impact of the FY-86 zero growth defense plan on the defense budget. The FY-86 defense budget calls for no increase in Pentagon outlays beyond what is necessary to match inflation. An analysis of the required budget cuts necessary to conform with the zero growth plan could be performed. The study could

take the form of an attempt to answer the question: Were the budget cuts balanced between accounts, or as in past years, did training, operations, maintenance and spare parts accounts receive most of the cuts?

A final topic for further study would be to attempt to determine the effect on national security of cuts made in the President's defense budget request as a deficit reduction measure. An analysis of the gap between the original Reagan Administration five year defense plan and the actual defense budgets as approved by the Congress, could include a consideration of the impacts of budget cuts on military readiness and force structure, and their implications for national security.

D. SUMMARY

The choice of an appropriate level of defense spending should be based upon the commitments made by the Government of the United States to its allies and the threats to national security, not by domestic politics. However, the fact is that the shifting cycles of defense spending over the past twenty years have borne little relationship to the nation's real security interests.

The American public first elected President Reagan in 1980, and after witnessing a decade of neglect in America's Armed Forces, gave him the mandate to restore America's defenses. Now four years and a trillion dollars later, the public consensus has weakened. In 1985, the defense spending

debates in Congress are no longer tied to international threats but are heavily influenced by the size of the Federal debt. The Congress, with the support of the American public is forcing the Pentagon to take its fair share of budget cuts by imposing a zero growth budget for the defense department for fiscal year 1986. These reductions in defense spending have halted the Reagan defense plan even though the Soviet Union continues with their force modernization program.

As the principal protector of the Free World, the United States should make defense spending decisions based on external threats and not by the desire to have a balanced budget since the price of freedom, whether measured in terms of human life or in dollars, is immeasurable. The security of the United States and the freedom of future generations demands no less. This study shows that the deficit issue is a complex situation, primarily influenced by uncontrollable social spending and not by defense expenditures as many believe. Unless President Reagan is allowed to complete the defense buildup as planned, the United States will revert to the dangerous times when all America could do was to hope its military was not required to be called upon. Finally, current defense budget decisions should not be influenced unduly by the effects of defense spending on the economy, since data show that the economy is able to absorb President Reagan's defense buildup program without experiencing adverse consequences.

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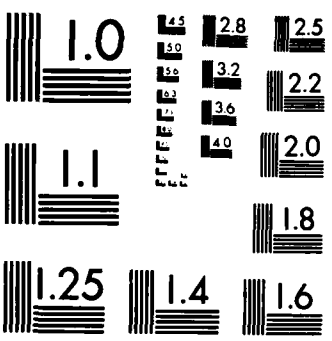

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