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Calculating Defense

by

Walter Goldstein

CALCULATING DEFENSE:
THE ECONOMIC COSTS AND REWARDS
OF U.S. MILITARY EXPENDITURES

Professor Walter Goldstein

At a rough approximation, the United States has spent \$2,000 B on military outlays and procurements during the Cold War years. Measured in terms of 1978 dollars this figure is equal to the total current value of all goods and services in the GNP. Public opinion has been prodded so often by military arguments and alarms that it no longer questions the costs and sacrifices that must be paid to maintain a "super power" defense capability. Indeed, candidates campaigning for political office have often been written off as unreliable or as woolly-headed idealists if they suggested that the defense budget was too large. In 1972 Senator McGovern was abused by the mass media, the labor unions and business for suggesting that a "peace dividend" of \$25 B might be found--once the Vietnam war came to an end---and that the saving could be most usefully diverted to non-military purposes. Mr. Carter came close to repeating his tactical error in the 1976 election. He began to conjecture about a 5% cut in military spending in his first appearance, but he retracted the conjecture when a storm of opposition threatened his campaign. On entering the White House he soon changed his mind. Instead of cutting defense outlays he quickly realized the political benefits that could be gained by augmenting the Pentagon's appropriations.

But a set of questions still remain to be raised even if it is politically unfashionable to do so. First, does the U.S. gain an effective return on the investments that it has lavished for thirty years on the armed forces? Second, is there any way to test the conventional wisdom, that the U.S. has improved its national security and its international leadership by spending heavily on military hardware and personnel? Third, could greater advantages have been gathered by boosting industrial growth and social welfare while down-grading the outlays of the defense establishment?

It is difficult to agree upon an objective technique to calculate the opportunity costs and the long-term rewards that are derived from defense spending. Most of the prevailing forms of calculation are hedged around with subjecting and emotionally charged assumptions. The most evident of the assumptions can be briefly listed:

1. If \$2,000 billion had not been spent by the U.S. on defense, the international order would have been fundamentally altered. The forces of communism would surely have expanded across the world, and the "balance of terror" would have been replaced by waves of destabilizing conflict---or by nuclear war.
2. If the U.S. had not asserted its nuclear hegemony, the Western alliance would have fragmented long ago. Powerful industrial nations would have procured (or even used) their own nuclear forces, and the bi-polar strength of the international order would have crumbled into a competitive, an-

archic disorder.

3. Had the U.S. not equipped itself to police the world order, the preservation of national sovereignty and economic growth would have been savagely impaired. Though the U.S. might have gained materially by retreating into an affluent but fortress America, its benefits would have been short lived. Rival "super" or "middle" powers would have rushed to fill the vacuum created as the hegemony of U.S. power deteriorated; the ensuing chaos could only have undermined America's wealth and influence.

Obviously, the defect of these assumptions is that of reading history backwards. Disorder is posited as the sole alternative outcome to established behavior. It is not asked whether a better outcome might have materialized if fewer military priorities had been pursued. Nor are the following questions raised: Would the dynamics of the nuclear arms race have been dampened and the frequency of conflict reduced if the U.S. had stretched its economic rather than its military pre-eminence? Would the enjoyment of political liberties and social welfare around the world order have been enhanced if the costs of war preparation had been curtailed?

There is no point in rehearsing the arguments waged between the Cold War and the "revisionist" schools of historians since they, too, are immersed in subjective assumptions. No one can define what might have happened if the U.S. (or the Soviet Union) had unilaterally changed its behavior over the last thirty years; nor can one argue that an improved set of outcomes would have emerged if the leading powers had turned from a threat to an exchange nexus in conducting

their affairs. At a time when the cost of arms transfers from the rich to the poor (roughly \$50 B a year) exceed the value of all economic aid, it is fitting to ask:

What were the actual economic opportunity costs that the U.S. forfeited by putting so high a priority on military spending?

What are the cost-benefit calculations that we still make today, "to secure peace by preparing the war"?

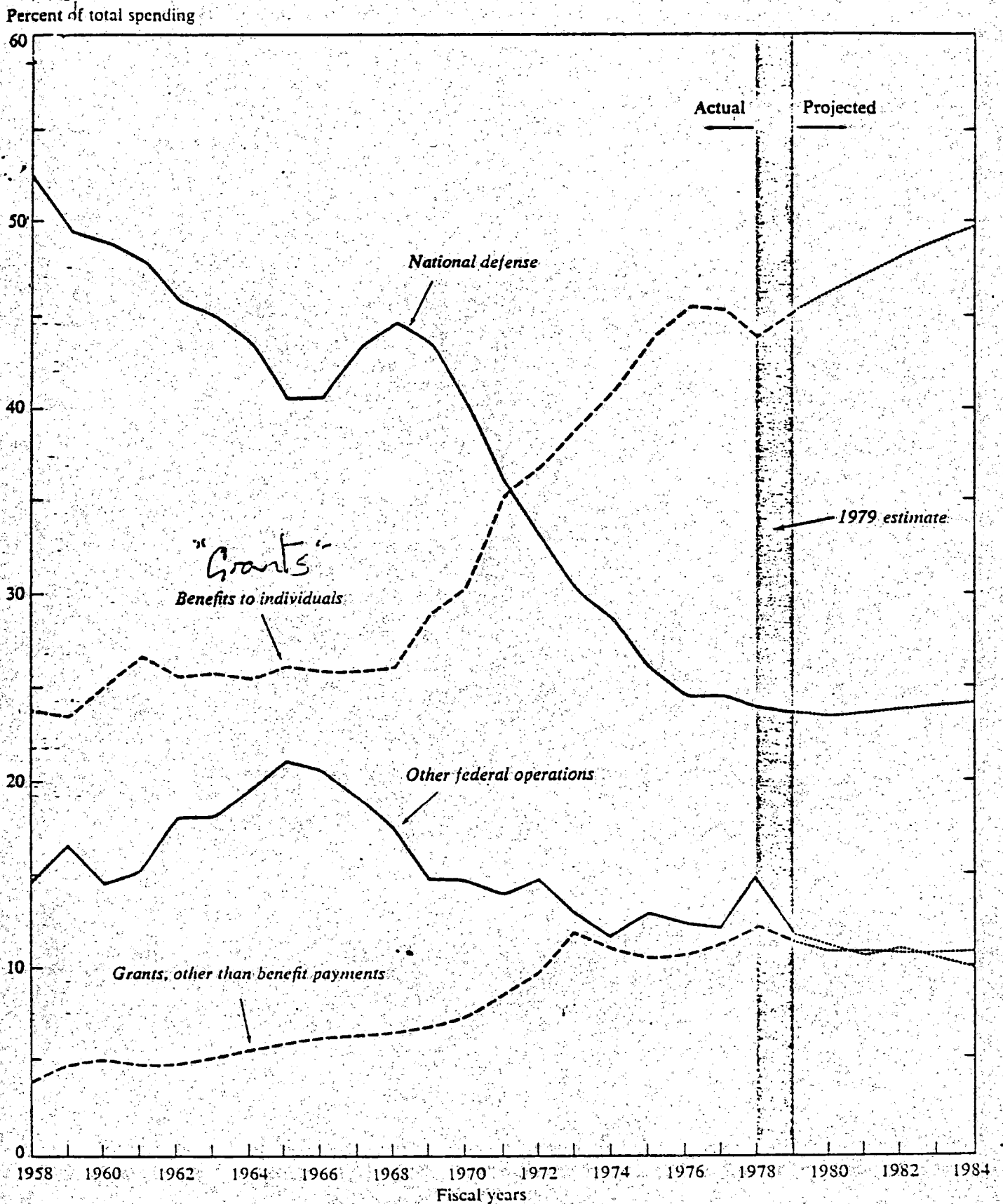
What changes might profitably be made in the years ahead as American resources become more strained and as the rewards of war become more unreal?

The economic costs of fulfilling a super power role.

The U.S. economy has devoted 5% of GNP to the support of military outlays in the last two decades. At present figures, the military bill comes to \$125 B while the cost of new industrial plant and equipment paid in 1978 came to \$150 B. In the early years of the Cold War the proportion had reached 15% of GNP, but as the tensions generated by the Korean War, the missile "gap," the Sputnik scare, and the Berlin confrontation diminished, the burden of defense spending stabilized at 5%.¹ Naturally, as GNP rose rapidly in the 1960s, the size of the outlay mounted accordingly. Conversely, as inflation widened the gap between real and monetary growth in the 1970s, the purchasing power in the armed services budget began to decline. It should be noted too, that the proportion of Federal revenues allocated to social welfare purposes---in the form of direct payments to the indigent or indirect subsidies and program funding---accelerated rapidly while the spending on defense experienced a re-

FIGURE 1

THE COMPOSITION OF FEDERAL SPENDING



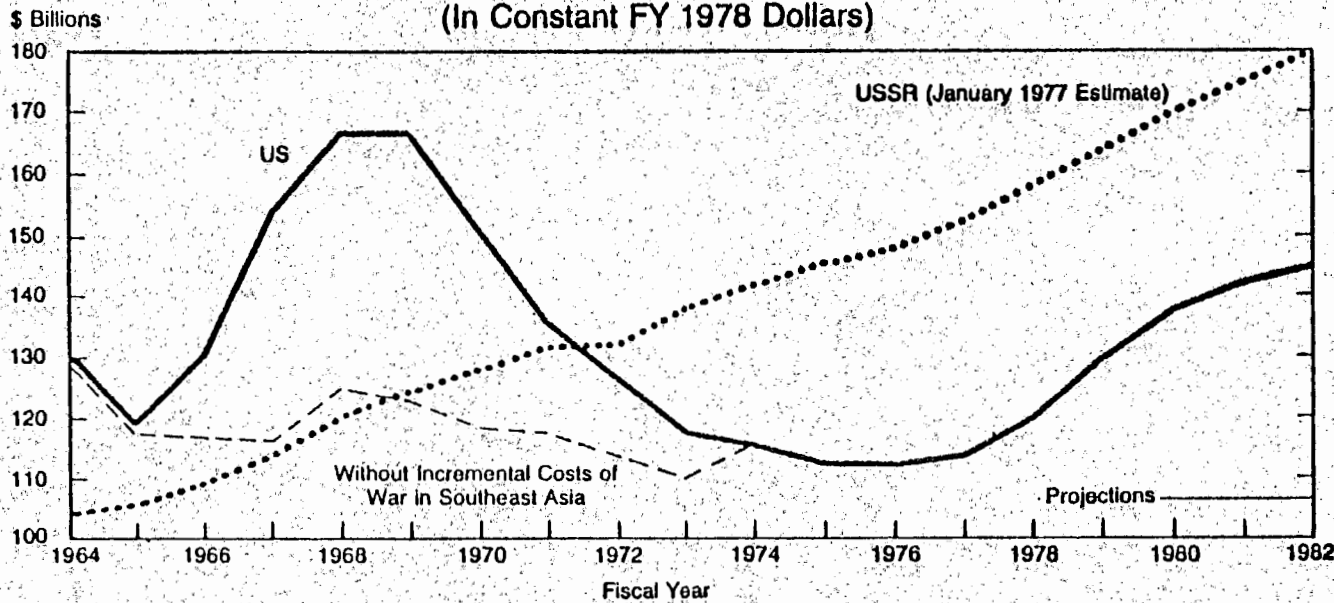
SOURCE: Congressional Budget Office, *Five-Year Projections and Alternative Budgetary Strategies for Fiscal Years 1980-1984*, January 1979, p. 20.

lative set back. The changing proportions of civil and military expenditure are shown in Figure 1; but it must be added that the inclusion of Social Security funding in the Federal budget after 1970 sent a sudden up-turn to the curve of butter over guns.²

In 1979 figures, 5% of GNP and 23% of Federal spending were allocated to a total obligation authority (TOA) of \$125.7 B for the U.S. Defense budget.³ It is planned to raise the figure to \$135.5 B in FY 80, and by an added \$10 B in each following year until FY 84; the obligation for the six years FY 79-84 will therefore amount to \$907 B. While conjuring with these astronomical figures, three important qualifications must be classified.

1. The level of inflation in the U.S. economy is currently running at 13%. If the purchasing power of the defense appropriation is to be preserved, the FY 80-84 figures will have to be greatly increased. A commitment to NATO to raise real outlays by 3% has already been made by President Carter, so the TOA listed above is already out of date.
2. Defense outlays are invariably smaller than the TOA. Ten percent of each year's obligation fails to appear in the final outlay of expenditure; as a result a sum of \$73 B in "unexpended balances" has accumulated in the Pentagon's reservoir for future spending. Since many weapon programs require a decade or more for completion, their outlays have to be stretched over many years.
3. The defense outlays of the U.S. must be compared to those funded by U.S. adversaries and allies. It is difficult to extrapolate an accurate and up-to-date comparison as the dollar keeps changing value against other currencies;

Figure II
 US and Soviet Defense Program Trends
 US Outlays and Estimated Dollar Costs of Soviet Programs
 (In Constant FY 1978 Dollars)



Note: Based on January 1977 intelligence estimates of the dollar cost of Soviet military activities and of US expenditures on a comparable basis converted by DOD from constant 1975 dollars to constant 1978 dollars. US 1976 transition quarter is excluded to improve comparability between US and USSR. US outlays include items such as Coast Guard, Selective Service, and ERDA-funded nuclear programs.
 Source: Annual Defense Report, FY 1978, p. 117.

during FY 71-79 the yen and the deutschemark gained nearly 50% against the dollar, while the real value of the Soviet ruble remained implausibly constant. Most of the NATO allies today spend between 3 and 5% of GNP on defense; the Soviet's expenditures in 1978 dollars are shown on a graph derived from CIA sources in Figure 11.

It is a striking fact to recall that while the U.S. prepares to spend \$90.7 B for defense (or more, if an inflation increment is to be appended each year), it continues to lose ground as an economic force in world affairs. America's GNP growth rates have lagged far behind those of its rivals, such as Germany or Japan, that deploy fewer resources or R&D for defense. As the political parties line up for the 1980 elections many Congressmen have called for a massive increment in military appropriations, even current projections hold that GNP will not gain but actually fall 2% below zero in the recession predicted for the early 1980s. But other economic factors must be considered too. The increase in labor productivity (measured in output per manhour) is significantly smaller than the productivity gains that have been registered in Japan or the European Economic Community (EEC). The awesome deficit in the U.S. balance of external accounts continues to stir the anxieties of the Western world. The deficit has mounted year after year, in contrast to the balance of payments surplus recorded by our less military allies. The deficit has hurt the power and prestige standing of the U.S. in several conspicuous ways:

1. The value of the dollar has fallen sharply since 1971; this has limited American leadership in "summit" diplomacy, in negotiating burden-sharing agreements in NATO, and in

arguing with the Organization of Petroleum Exporting Countries (OPEC) cartel to stabilize the price of crude oil.

2. The share of export markets enjoyed by U.S. manufactures has constantly fallen; and the earnings generated by U.S. exports have failed to match the soaring price of imports (especially of oil imports which must now fulfil 45% of U.S. oil needs).
3. The drive to restore the value of the dollar has prompted a tight money policy and a determination to lower the Federal deficit from \$37 B to \$30 B in FY 80. These retrenchment policies, which are strongly urged by foreign creditors and trading partners, will probably lead to high levels of unemployment, a prolonged recession, and to a faltering level of capital investment in basic industries.⁴

It is unrealistic to argue that one single factor, the expenditure of valuable resources for defense purposes, has crippled the powerful leadership that the U.S. exerted immediately after World War II. But the case can be made that the expenditure exercised a critical impact. Two million young men and one million civilians (many of whom are skilled workers) were withdrawn from a vital age group in the work force. The cost of financing U.S. forces and gigantic bases around the world, for thirty years, added significantly to the deficit in the external accounts. By one account, the last eight years of the Vietnam war was \$167 B; this simply represented the gap between potential and actual GNP.⁵

Another economic opportunity cost must be considered in this accounting. The utilizing of 40% of the nation's R&D for military programs tended to be a hindrance and not a help--as it is often

argued---to the modernizing of high technology industries. It is true that the technological spill-over from military R&D in the 1950s and 1960s was beneficial to the aerospace, nuclear and electronics industries and to the multi-national firms (such as Boeing, IBM, GE or ITT) that set out to enlarge their share of the world's markets. But it can not be claimed that the \$80-B in military R&D planned for FY 79-84 will help develop new industrial processes, product lines or export markets. Currently, most military R&D is ear-marked for specialized and project-specific purposes, such as nose-cone engineering for the MX missile or radar tracking by nuclear submarines. These expenditures do not boost America's scientific leadership in commercial application; in many cases, as the Japanese industrialists argue, they deflect scarce resources and skills from vital civil programs.⁶

A last factor must be included while calculating the magnitude of costs and rewards involved in U.S. defense spending. America's leadership in world affairs declined in proportion to, and as a consequence of its failing economic performance. The "summit" meetings of Western leaders become increasingly unresponsive to U.S. initiatives---whether in trade negotiation, the handling of Middle East affairs, or U.S. efforts to constrain the transfer of nuclear technology to the Third World---as the dollar weakened and the balance of payments deficit grew. American attempts to co-ordinate Western oil policy or the stabilizing of currency exchanges were sharply criticized and in some cases flatly rejected. The onset of inflation in the 1970s was attributed across the world to the U.S. ambition to secure a guns-plus-butter budget during the Vietnam war.

When the Bretton Woods and the Smithsonian agreements to fix exchange rates fell through, most U.S. allies became resentful or hostile. They refused to tug the world out of a recession as "locomotive economies" so long as the U.S. continued to drain one-quarter of the world's oil supplies and its domestic economy forged ahead at a dangerously "overheated" pace. If inflation has stemmed in the first place from America's lack of monetary discipline, they insisted on questioning whether their own inflationary burdens were the necessary price to pay for sheltering under America's "nuclear umbrella." Accordingly, they took whatever measures they could afford, as in the tariff and currency wars waged by the EEC, to separate their currencies from the burdens imposed by U.S. economic wastage.

In short, if it is fair to call "the American century" that brief period when the U.S. was the pre-eminent power in military and economic affairs (between 1945 and 1971), there is not reason to suppose that it could have lasted into the 1970s. The military pre-eminence of America remained relatively intact but its economic strength and its political leadership were severely challenged. As a failing super power, the U.S. had paid a high price to maintain its nuclear and military might. It had cost at least \$2,000 B to create the U.S. defense and nuclear deterrence structure, but the reward for doing so was increasingly questioned. It appears highly probable that the questioning will continue in the 1980s. As the U.S. acquires massive increments in strategic fire power and in its tactical deployments, it is likely to manifest a greater feebleness in its economic standing and in its political potency. The specific trade-off between its military increments and the consequent retarding of domestic growth

was illustrated in a graphic chart prepared by Professor Seymour Melman. His trade-off costs were calculated in 1973 but they are still pertinent (as Figure III reveals) in the inflationary situation of 1979.⁷

What does the military budget buy?

Of the TOA for FY 79 of \$125 B, more than one third goes to military personnel, their housing and pension payments; another third goes to R&D plus weapons procurement programs, thus leaving \$38 B for operations and maintenance. These figures can also be divided by service rather than by functional category: the army receives 25%, the navy 33%, the air force 28% and "other" takes 14% of the TOA in FY 79 and the FY 79-84. A third division can be classified according to program mission. Figure IV below reveals that a sharp change in spending patterns will be phased into the "mission" budget by FY 84.

FIGURE IV

DEFENSE AUTHORITY BY MISSION
(in billions of current dollars)

<u>Program</u>	<u>FY 79</u>	<u>FY 84</u>	<u>FY 79-84</u>	<u>% Change FY 79-84</u>
Strategic	9	17	74	97%
General Purpose	46	66	338	42
Intelligence	8	12	62	45
R&D	11	17	82	59
TOA	126	178	907	41

The residual categories in this budget include supplies, maintenance, training and support; they are projected to increase by an average of 25% over the period. The emphasis place on the build-up of strategic forces is immediately striking. It is more than twice the increment allocated to general purpose forces--most of which are

deployed as tactical formations in the NATO theater or as naval units to police inter-continental sea lanes. This means that the enlargement of America's nuclear deterrent capability has been accorded a vastly more important role in future spending than the maintenance of tactical/conventional strengths in central Europe or the high seas.

The importance of strategic build-up can be perceived in Figure V. The major procurement programs for FY 79 are set out, at a current total of \$155 B. This includes the funding of weapons programs, such as Trident submarines, combat ships and fighter aircraft, many of which will not enter service until the late 1980's. The chart does not include the \$33 B that the President wants to spend to create a mobile missile (the MX) force of 200 ICBMs that are to be deployed---each in its own "racetrack" of 23 silos---in 4600 underground bunkers.

FIGURE V

MAJOR PROCUREMENT PROGRAMS
(in billions of current dollars)

<u>Program</u>	<u>No. of Units</u>	<u>Total Cost</u>
Trident nuclear (SLBM) submarines	14	\$24 B
Guided-missile destroyers	16	14
Combat frigates	52	10
Attack submarines	36	10
F-14, 15, 16, 18s	4,013	64
Tactical air defense weapons	17,000	14
MX-1 Battle tank	7,123	10
Air-Launched cruise missiles	3,442	4
Helicopters, others	500	5

Allowing for the cost differentials in units prices (e.g., between the SLBM or the F-14), it must now be asked why the U.S. military heavily prefers to strengthen its strategic rather than its naval or tactical/conventional force strengths.

The strategic deterrent force.

The U.S. nuclear "umbrella" is composed by three different force structures: The B-52 bomber force, the SLBM submarine fleet and the land-based ICBMs in underground silos. Under the SALT I treaties, these "offensive" deployments were strictly limited, as Figure VI shows; provision was also made to establish two defensive ABM systems but both nations discovered that it was too costly to build them.

FIGURE VI

The SALT I Agreements

	Soviet Union	United States
I. The ABM Treaty		
Sites	2	2
Interceptor Missiles	200	200
Under 1974 Protocol		
Sites	1	1
Interceptor Missiles	100	100
II. Interim Agreement on Strategic Offensive Arms		
ICBM Silos	1,618	1,054
Including Modern Large		
Ballistic Missiles (MLBMs)	313	
SLBMs	950	710
Submarines	62	44

Present plans call for the U.S. to expand and modernize its triad of forces. The 349 aging B-52 bombers will be refitted at a cost of

\$12 B and their lives will be prolonged until 1990; half of them will carry 1,800 Cruise missiles and the other half will remain as penetration bombers. Since the decision was made to not build the B-1, the twenty-years old B-52s will be the last heavy bomber in the U.S. arsenal in this century. Among the SLBM forces at sea, the 10 Polaris and 31 Poseidon submarines are due to be phased out of service in the 1980s, and 14 Trident subs will eventually be phased in. As a result, the 656 Submarine Launch Ballistic Missiles (SLBM) launchers in the oceans depts (16 per boat) today will fall to 360 by 1990, but the number of multiple independently-targeted vehicles (MIRVs) they carry will remain at a total count of 5,100 warheads. On the land side, the U.S. has placed 1,054 ICBMs in hardened silos in the Rocky Mountains. 300 of the Minutemen ICBMs will be up-graded with multiple maneuverably-targeted warheads (MARVs), that carry a greater yield (in terms of kilotons of TNT equivalent) and that enjoy a higher accuracy (measured in CEP, circular error of probability). In addition, 200 mobile MX missiles will be placed in 4,600 new silos in order to assure the "survival rate" of the ICM forces if the Soviets should aim a crippling first strike to knock them out of action.⁸

The emerging balance of strategic force strengths in the 1980s between the U.S. and the USSR has been portrayed in Figure VII. A brief explanation of the terms in the far left column should be noted. Missiles launchers are first categorized as "delivery vehicles;" the number of MIRV or MARV warheads they carry is then listed as their "force loading;" the yield of total TNT in kilotons equivalent is their "throw weight;" and EMT is the destructive power, measured in "equivalent megatonage," plus total yield and the CEP accuracy. The four vertical columns are self-explanatory; the first is accurate for

today, but the second and fourth assume that the SALT II treaty will be ratified and fully implemented. (If it is not, the Secretary of Defense calculates that column three will add \$30 B more to the next few military budgets.)

FIGURE VII

STRATEGIC FORCES OF THE U.S. AND U.S.S.R. FOR SELECTED CALENDAR YEARS

Category	Calendar Year							
	1979 with SALT I		1985 with SALT II		1985 without SALT II		1990 with SALT II	
	U.S.	U.S.S.R.	U.S.	U.S.S.R.	U.S.	U.S.S.R.	U.S.	U.S.S.R.
Delivery vehicles								
ICBM	1,054	1,416	1,054	1,238	1,054	1,518	850	1,300
SLBM	656	950	648	904	648	1,220	744	900
Bombers	349	150	300	108	300	190	200	50
Total	2,059	2,516	2,002	2,250	2,002	2,928	1,794	2,250
Force								
loadings	9,200	4,900	10,700	9,900	10,700	12,800	12,500	11,000
Missile								
throw-weight	1,900	5,000	2,150	5,600	2,150	7,200	2,400	6,000
Total								
throw-weight	3,300	5,500	3,800	6,200	3,800	7,600	4,100	6,700
EMT	3,700	6,400	4,400	7,800	4,400	10,200	5,000	9,000

Two inferences have been drawn from this chart, possibly in vast error. First, that U.S. force planning doctrine has moved in recent years from 'superiority' to 'sufficiency,' to 'essential equivalence,' and now to the expectation of 'nuclear inferiority.' Since the new Trident, B-52 Cruise, and mobile MX systems will not be deployed until 1990, the Soviets will enjoy a considerable advantage in throw weight and EMT, whether the U.S. ratifies the SALT II treaty or not.

This posits, of course, that the numbers count is the sole reality in nuclear deterrence. It makes the incredible assumption, so pervasive among military men, that force "capabilities" can alone determine the risk-taking and the political will that determine a nation's

FIGURE VIII

ACTIVE NAVAL FORCES OF THE U.S. AND U.S.S.R., FY 1969-1979

<i>Ship Type</i>	<i>FY 1969</i>		<i>FY 1979</i>	
	U.S.	U.S.S.R.	U.S.	U.S.S.R.
Aircraft carriers	22	—	13	2
Surface combatants	279	220	165	264
Nuclear submarines	79	63	118	140
Conventional submarines	77	291	5	215
Patrol combatants	9	148	3	129

This total of U.S. naval deployments can be divided into currently active and "under construction" categories.

<i>Ship Type</i>	<i>FY 1979</i>		
	Active	Under construction	Total
Fleet ballistic missile submarines	41	7	48
Attack submarines	77	22	99
Aircraft carriers	13	1	14
Cruisers	28	1	29
Destroyers	72	13	85
Frigates	65	25	90
Patrol	1	5	6
Amphibious	65	2	67
Mine	3	—	3
Auxiliaries	74	18	92
Total	439	94	533

strategic "intentions." To compound the profundity of this error, it is secondly apparent that U.S. strategic doctrine is moving from a city-busting (counter value) to a pre-emptive (counter force) deployment. In other words: instead of relying on a mutually-assured-destruction (M.A.D.) of each other's societies, the U.S. and the U.S.S.R. would also like to knock out the adversary's missile launchers and silos, as well. Hence the 96% increment in the spending on strategic rather than conventional force in FY 79-84; and the strident opposition to the SALT II treaty, on the grounds that a deterrent is "credible" only so long as a numerical advantage has been gained in billions of TNT equivalent tons.⁹

Conventional and naval forces.

The calculations of force deployments in NATO or at sea are less dramatic than the mega-murder calculated by strategic doctrine. Unfortunately, the intensity of error in drawing policy inferences at the tactical level is not comparably reduced. More anxieties are falsely received and crash programs urged at conventional force levels, perhaps because a "limited war" in Europe or at sea can still be envisaged while a full-scale nuclear exchange can not.

The contemporary strength of the U.S. and the Soviet navies is portrayed in Figure VIII. In FY 79 the total U.S. fleet comprised 440 ships and the Soviets had 1,769; the Soviets had commissioned nearly 900 more small ships and twice the number of large (below) ships and twice the number of large (below) ships in active service.

The most heated arguments over the navy budget have focussed on a hot political issue that just happens to be strategically quixotic: should the aircraft carrier fleet, as it declines in utility, be

equipped with expensive nuclear or oil-fired carriers? Hard-line advocates in the Congress have fought the President's reluctance to authorize the construction of mammoth, gigantically expensive, nuclear carriers. They have ignored the vulnerability of capital ships to swift, small craft carrying surface-to-surface missiles. In calling for a larger navy they have also ignored the fact that a Soviet attack on Western oil tanker fleets or on the sea lanes to the Persian Gulf would have to be treated as a major casus belli. There is no way in which the U.S. can hope to police its far-flung ocean shipping without resorting to the threat of nuclear attack. To build an extensive navy today is to indulge in a historical anachronism. The great U-boat battles of World War II will not be repeated again. Nor can the U.S. resort to gunboat diplomacy by landing marine strike forces in the OPEC countries or by building expensive new bases in the Indian Ocean.¹⁰

The increased build-up of conventional land and tactical air forces, especially in the European theater, is equally open to criticism. Figure IX demonstrates the inferior balance between the forces deployed in recent years by NATO and the Warsaw Pact.

Many of the NATO governments have expressed alarm at the growing disparity of force strengths; in addition, they have pointed to the formidable array of medium-range (MLBM) missiles that the Soviets have targeted on Western Europe. But the error in NATO's stressful complaints can be quickly spotted. There is little benefit that the faltering economies and the tension-wracked societies of Eastern Europe could gain by launching conventional or "limited war" incursions into the West. The U.S. deployment of 7,000 tactical nuclear weapons has

FIGURE IX
Soviet and American Inventories,
Major Ground Forces Equipment
1970-76

	1970	1971	1972	1973	1974	1975	1976
Main Battle Tanks:							
US	9,695	10,355	9,610	8,605	8,575	5,370	6,440
USSR	38,000	39,000	39,000	40,500	42,000	42,000	42,000
Armored Personnel Carriers:							
US	12,205	13,300	12,330	12,245	10,890	10,950	11,715
USSR	30,500	30,500	30,600	35,600	35,600	38,750	38,750
Artillery:							
US	7,135	6,885	6,090	5,790	4,980	4,895	5,155
USSR	16,000	16,500	17,000	18,500	18,500	19,000	19,000

Current Tactical Combat Aircraft Inventories
(Oriented to Land-Warfare Support)

United States:		USSR	
Type	Number	Type	Number
A-7	210	MiG-17	600
A-10	Some	MiG-21	1,700
F-105	37	MiG-23	500
F-111	312	MiG-25	Some
F-4	1,091	MiG-27	Some
F-15	Some	MiG-29	Some
	c. 1,700	Su-7	400
		Su-15	700
		Su-17	100
		Su-19	50
		Tu-16	450
		Tu-22	170
		Tu-26 (Backfire)	80
			c. 4,800

never been reduced. If the Warsaw Pact armies bunched up their forces to prepare an assault, they would be immediately spotted and they would be critically vulnerable to a "limited tactical" attack.

Of course, the NATO leaders can usefully maneuver by voicing their doubts that the U.S. will ever "put its own cities" on the line by resorting to a strategic nuclear exchange---to stop a Soviet thrust into Europe---at a time when the numbers of U.S. missile deployments have failed to keep pace with the Soviets' relentless increase. (Indeed, many of the NATO and Gaullist leaders refuse to acknowledge that a major part of the Soviet arsenal is reserved for a possible second front war with China.) But this does not resolve the questions regarding "worst case intentions:"

For what specific purpose would the Warsaw Pact commit aggression by trying to utilize its conventional/tactical advantage?

On a more realistic level, since the U.S. has acceded to the NATO demand for a 3% real increase in defense spending and burdensharing, what are the political or the technical benefits that the increment will actually buy?

Given the \$8 B costs already allocated for new U.S. weapons deployments in Europe, as Figure X depicts, would a 10% addition secure sufficient psychological or intrinsic gains to justify such an increase in its hard currency outlays?¹¹

FIGURE X

FY 79 FUNDS FOR NATO FORCE PROCUREMENTS

<i>Category</i>	<i>FY 1979 (Actual)</i>
Close combat	
M-60	509
XM-1	464
APC	174
TOW	49
Total	1,196
Helicopters	
ASH	6
AAH	177
Hellfire	65
Blackhawk	392
Total	640
Air defense	
Hawk	76
Patriot	296
Divad	76
Roland	190
Stinger	148
Total	786
Fire support	
Pershing	108
Rocket System	63
Howitzers	126
Artillery/ ammunition	546
Total	843
Tactical air	
F-16	1,579
F-15	1,444
A-10	841
AWACS	301
Missiles	264
Total	4,429
Airlift	
C-5	37
C-141	64
CRAF	29
ATCA	160
Total	290
Total NATO	8,184

What is an optimum defense budget for the U.S. in the 1980s?

The onus of argument in the budget debate has always been trust on liberals, doves and critics of the Pentagon. Perhaps it is time to reverse the trust and ask: At what point can a super power forfeit its alliance leadership and its political ascendancy by spending too many of its scarce economic resources on the illusory numbers games of "catching up" with military adversaries?

The argument was raised in the earlier pages that the U.S. lost power and prestige in the 1970s as its economy continued to weaken. Obviously, the time has come to determine the optimum mix of guns-and-butter that will reverse the loss of American standing. If the 5% increase in military spending recommended by Henry Kissinger and Senator Nunn---as the bargaining price to be paid for the SALT II treaty---were carried through, the Congress will either have to raise tax revenues or to slash social and economic programs at home. The consequences of either action, when inflation tops 13% and unemployment is moving toward 8%, could be politically disastrous. Were the military increase to be financed instead by enlarging the Federal deficit, the contempt of America's allies would soar to new heights. French and German Gaullists already refer to the U.S. as the faltering economic giant that has lost its political will. If the American GNP should continue to fall---while the Congress uses SALT II to intensify (not reverse) the nuclear arms race---the NATO leaders will simply prove their "Catch 22" proposition: that a super power that taxes itself to prepare for war is likely to lose the real contest of the century, the competition to exploit the economics of peace.

Indicators of future change.

The U.S. is not likely to preserve the military priorities and doctrinal rigidities of the Cold War era through the remainder of this century. They have become too costly, unrewarding and contradictory for the domestic economy to bear. A brief factor analysis can indicate why change will eventually occur.

1. The utility of military arsenals and garrisons is fast declining---though it will never totally disappear. Armed intervention in the Middle East or Latin America is not really plausible; while the conventional defense of Europe lost all semblance of reality twenty years ago.
2. City busting and deterrence doctrines are based upon a minimum assured destruction capability that no adversary can afford to take lightly, even if it triples its own counter-force capabilities and its nuclear stockpiles. The rush to build Trident, mobile MX and other systems will create further wastage and alarm; it will neither stabilize the "balance of terror" nor improve the credibility of an alliance leader's "umbrella."
3. The domestic opportunity cost to the U.S. in accelerating the arms race could be crippling. If industrial resources, export earnings, skilled manpower and R&D are deflected in rising magnitudes to military purposes, the economy could be severely weakened. This might injure America's international standing more heavily than a feared cutback of 5% (or perhaps 20%) in military outlays would ever provoke.

4. "Competitive co-existence" is a war game that is no longer reserved to super powers. Alliance members and middle powers can play it aggressively to promote their economic and political advantage. So too can the OPEC cartel or nations struggling---like Brazil, Nigeria, Egypt or Israel---to again a regional hegemony. The ability of a super power to deter them by enlarging its own military arsenals is neither psychologically credible nor economically effective.

As it enters the 1980s, therefore, the U.S. looks more and more like a muscle-bound giant. The point was made by McGeorge Bundy, a predecessor of Henry Kissinger in the White House who now rejects his successor's alarmism, that the U.S. nuclear commitment is in no way impaired by an apparent inferiority in the number of weapons in service. The main purpose of a military build-up, he insisted, was to allay false fears at home and among alliance electorates. To strain for "usable superiority" is not technically necessary, nor is it politically useful. The cost is exorbitant and the benefits gained are in reality counter-productive.¹²

This startling admission by the National Security advisor to JFK and LBJ leads to a stark conclusion. The analogy can be drawn between the nuclear guarantee provided to the Western world by the U.S. and the maintenance of the dollar as the world's only reserve currency. More than 70% of international trade is negotiated in dollars and no other currency is likely to fulfil its reserve role. By going short against the dollar, NATO allies and Japan can cheapen

its worth and thus promote their own trading advantages. Treasury officials in Washington recognize the dilemma. But so long as they cling to false ambitions of global leadership and reserve power, the economy will never recoup its basic strength. If it remains hooked to out-moded concepts of financial---or military---dominance the U.S. will undermine and not extend its own strength.

This conclusion does not mean that the U.S. should retreat into an isolationist policy. To try and de-couple itself from the nuclear power balance or from the monetary balance in world trade would be utterly destructive. But to suppose that the pursuit of military leadership is reason enough to turn a blind eye on domestic considerations is even more illogical. As a super power in the late 20th century, the U.S. can not hope to improve its economic productivity, to stabilize the role of the dollar, and to expand its military arsenals simultaneously. Choices and policy trade-offs must be made. The threat of inflation, the world oil shortfall, and the devaluation of economic power can no longer be disregarded. These threats are more serious than the military perils that might emerge in the nuclear arms race, in the conventional force balance in Europe, or in the security dilemmas that are mounting in the Middle East and in the Third World. A new mix in economic and defense priorities must be found if the U.S. is to contribute more effectively to the security and the economic growth of the world order. Divisive haggling for a 3% or a 5% increment in defense spending will enhance neither security nor stability. But the problem remains, unfortunately, that we do not know how to advance this argument in an election year. The mass

media, the Congress and public opinion are deeply conditioned by the appeal for military machismo that the calculation of opportunity cost and regards has fallen into disuse.

NOTES

1. In a pioneering effort, Professor Bruce Russett of Yale University, attempted a systematic study of the economic opportunity cost of military spending: What Price Vigilance? The Burdens of National Defense (New Haven: Yale University Press, 1970). His quantitative analysis compares the factor cost of defense outlays in the economies of the 15 nations in NATO between 1950 and 1967.
2. The economic and the military data in the following pages has been drawn from various sources: Joseph A. Perlman (ed.), Setting National Priorities: The 1980 Budget (Washington: American Enterprise Institute, 1979); Lawrence J. Korb, The FY 1980-1984 Defense Program (Washington: American Enterprise Institute, 1979); The Military Balance (London: International Institute for Strategic Studies, 1979); Annual Yearbook of World Armaments and Disarmament (Stockholm: Swedish Institute for Peace Research Information, 1979).
3. Data drawn from the annual Defense Report and the Budget Report published by the U.S. Dept. of Defense and the Congressional Budget Office, FY 1979 and 1980.
4. Economists and government officials disagree strongly over their predictions of future behavior. Whether the U.S. recession will be shallow and brief, or prolonged and deep, is a subject of theoretical dispute. The lagging behavior of the U.S. economy in contrast to the performance of the EEC and Japan is vividly portrayed in a set of charts appearing in Fortune (13 August, 1979) and Business Week (3 September, 1979).
5. See Robert Warren Stevens, Vain Hopes, Grim Realities: the economic consequences of the Vietnam War (New York: New View-

points, 1976), pp. 158-67. He calculates the growing gap between a potentially full-employed GNP and the actual GNP figures reported in constant dollars. He notes that the war was paid for twice over, once by diverting economic resources, and second in the needless recession that resulted: the first figure came to \$140 B while the second was roughly costed at \$185 B.

6. See Franklin A. Long, "Technological Innovation for the U.S. Civilian Economy," in Walter Goldstein (ed.), Planning Politics and the Public Interest (New York: Columbia University Press, 1978). He notes that of the \$38 B spent on R&D in FY 1976, 53% came from Federal sources and the major share went to Defense and Space.
7. The Permanent War Economy: American Capitalism in Decline (New York: Simon and Schuster, 1974), pp. 200-01.
8. The 190,000 pound MX missiles will carry ten MARV warheads, each accurate enough to "take out" a hardened Soviet missile silo. Of course, the Soviets will now have to build "racetrack" systems in order to multiply their own silo numbers. It is certain that Congressional opponents of SALT II will insist that the verification of Soviet missile numbers will then be impossible---as there will be so many more holes to store them in. Somewhat like the Anti Ballistic Missiles (ABM) race that SALT I was designed to curb, this new spiral of arms racing was encouraged-rather than discouraged---by the negotiating process for an arms control agreement.
9. The literature on war games, nuclear risk-taking and "annihilatory credibility" is too extensive to be documented here. The

publications issued by the Pentagon and its academic apologists, such as the Committee on the Present Danger, are replete with alarmist readings of the numbers game. They assert that any power (other than the U.S.!) that gains a numerical superiority in launchers or EMT will be immediately tempted to use it. This fanciful and mordant imagination was appropriately called "crackpot realism" by the late C. Wright Mills.

10. A study done by an independent organization, the Library of Congress, pointed out that any U.S. invasion of the Persian Gulf would be doomed to fail (the New York Time, August 25, 1979). Guerilla forces could easily blow up oil refineries, pipe lines and U.S. supply facilities before a large U.S. force could be rushed in; and before it rushed in, the Soviets would be certain to retaliate in some manner. Congressional scepticism has been so sharp since the Shah of Iran fell that plans to build a U.S. naval base in the Indian Ocean or the Gulf have failed to move forward.
11. A lively scenario of mega-murder appears in the fictional work of General Sir John Hackett and his colleagues, The Third World War (New York: Macmillan, 1979). The realistic threat that they perceive, ironically, comes not from power-crazy Communists seeking to score decisive victories but from alarmist and bumbling generals who are obsessed with their own war fighting capabilities and the need to look tough. Today, Central Europe is more densely packed with sophisticated weaponry and highly armed forces than any other part of the world. It is a remarkable supposition that peace will be maintained only if their density is increased---

to the point, presumably, where they fall over each other in confusion; that would truly provide a "forward defense" strategy in which tactnucs could no longer preserve a "firebreak" to delay the use of heavy nuclear weapons.

12. Bundy's astonishing remarks were made to the International Institute of Strategic Studies. (The New York Times, 18 September, 1979). He added that the JFK and LBJ administrations talked about "numerical superiority" principally as a "reassurance to the American public and as a means of warding off demands for still larger forces." He flatly rejected the demand for a 5% increments issued by Henry Kissinger, as well as his judgment that the credibility of the U.S. nuclear commitment to Europe, defense would be rather undermined if the increase were not put through. His sceptical arguments can be validated by simply counting the warheads that are already in place in the U.S. today.

Current U.S. Strategic Delivery Capability

Vehicle	No. of vehicles deployed	No. of warheads per delivery vehicle	Total delivery capability (no. of warheads)	Total yield per delivery vehicle (Mt)	Total delivery capability (Mt)	Circular error probability (meters)
<i>MIRVed vehicles</i>						
Minuteman III	550	3	1,650	0.51	280	350
Poseidon C-3	496	10	4,960	0.4	198	550
Sub-total	1,046		6,610		478	
<i>Non-MIRVed vehicles</i>						
B-52	300	11	4,300 ^d	12	3,800	
Titan II	54	1	54	7.5	405	900
Minuteman II	450	1	450	1.5	675	550
Polaris A-3	160	3	480	0.6	96	900
Sub-total	964		5,284		4,976	
Total	2,010		11,894		5,454	