WORLD MILITARY AND SOCIAL EXPENDITURES 1987-88

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WORLD MILITARY AND SOCIAL EXPENDITURES 1987-88

12th EDITION

Ruth Leger Sivard

"The care of human life and happiness, and not their destruction, is the first and only legitimate object of good government."

Thomas Jefferson, US, 1809
Acknowledgements

Over the 26 years in which I have been attempting to de-mystify the arms race and its impact on our lives, there has seemed to be no progress at all in reducing the size of the world’s burden and its dangers.

Perhaps this is now beginning to change. What has certainly changed is the remarkable growth of effort by public interest groups and concerned individuals to lay out the facts and bring sanity to the political process. This is not just an American or western European phenomenon. Judged by our correspondence alone, it reaches deep into every continent and unites us in a community of fellowship and trust.

This small publication can cover only the broadest trends, but it owes much to the sharing of knowledge by individuals in a universal network that has no name except the common good. I owe a debt to many and have tried to reflect in this report some of their endeavors and concerns.

In preparing this edition I have also had direct research support from Herbert Block (GNP), Maire Dugan (militarized government), William Eckhardt (wars), Stan Norris (nuclear), and Isabelle Osborne (peacekeeping and political rights). In addition, Jeff Faux has advised on US economic developments, Max Miller on social needs, Paul Walker on military matters, and Norman Waitzman on human rights.

Among others who have given generously of assistance and advice are Alfred McAdams, Malcolm Spaven, Robert Sivard, and James Sivard.

Fallon Mullaney has served as office manager, providing a clear head and indispensable efficiency whenever it was needed most.

The interpretations of the material are wholly my responsibility and do not necessarily reflect the views of the advisors or the sponsoring organizations.

Washington, D.C., November 1987

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FOREWORD

In 1941, President Franklin Roosevelt defined a post-war world founded on four freedoms: freedom of speech and freedom of religion; freedom from want and freedom from fear.

Not quite five decades later, we are still far from fully realizing the four freedoms.

We have, however, achieved the scientific and technical knowledge as well as the international structures to eliminate want of life's basic necessities. We do have the means now to realize the third freedom, the freedom from want—if we can summon the political will.

Since the 1940's, there has been an explosion of research in health and agriculture, in information, communications and transportation technologies. The health sciences can now cure or prevent many of the common diseases, often at minimal cost. Numerous advances in agricultural research have made it possible to grow more than enough food to feed every person on earth. The revolution in communications and transportation now allows us to predict famines anywhere in the world, and to deliver food in record time.

The arms race stands between us and these achievements. The dedication of policies and resources to destructive ends condemns us all to the daily fear of escalating conflict that could destroy all life. The unlimited demand for arms condemns growing numbers of our children to hunger, poverty, illiteracy, and an early death.

Lives of all nations are warped by the arms race. The United States and the Soviet Union together spend about $1.5 billion a day on military defense. Yet the United States ranks eighteenth among all nations in infant mortality, the USSR forty-sixth. The developing countries spend almost four times as much on arms as on health care of their people. Yet hundreds of millions in those countries are hungry; 20 percent of their children die before their fifth birthday.

There is little hope of official agreements to end the insanity of this arms race until enough of the world's citizens are given the facts and can act collectively to bring informed pressure to bear on their governments. There is no hope of achieving a better life for all until arms budgets are reduced and the funds and technologies redirected to peaceful and humane ends. Ruth Sivard's yearly report serves these two vital purposes: it helps its readers to understand the technicalities and costs of the arms race, and it illustrates vividly the alternative uses for bloated military budgets.

Jean Mayer
President, Tufts University
The purpose of this report is to provide an annual accounting of the use of world resources for social and for military purposes, and an objective basis for assessing relative priorities. In bringing together military costs and social needs for direct comparison, the report bridges a gap in the information otherwise available to the public. It is hoped that this will help to focus attention on the competition for resources between two kinds of priorities. Future issues will attempt to improve the coverage with additional measures, monetary and non-monetary, of the state of the world.
Summary

A year of paradoxes, 1987 recorded a new high in global military expenditures at $1.8 million a minute, but also signalled a break in the fever of militarism. The two superpowers further enlarged their enormous stocks of nuclear weapons, but for the first time agreed on a treaty to destroy some of them. There were more wars underway than at any previous time in history, but also several promising breakthroughs for peace.

While there is no convincing statistical evidence as yet of a turning point in the world’s arms race, the momentum for change now seems irreversible. A variety of factors reinforce it.

The strain on the world economy has become as ominous as the oversupply of killpower in nuclear stockpiles. A military joyride on credit has left mountains of debt for future generations. Rising poverty and the lengthening lines of the unemployed contrast with the affluence with which military programs operate. Public pressures for restraint are more vocal and insistent. Increasingly, government policies have begun to respond to these pressures.

Priorities 1987

Hunger-related causes kill as many people in two days as the atomic bomb killed at Hiroshima.

The USSR, which has spent an estimated $4.6 trillion (constant 1984 dollars) for military purposes since 1960, ranks 23 among 142 countries in economic-social standing.

The fuel consumed by the Pentagon in a single year would run the entire US public transit system for 22 years.

Military defense budgets in the Third World are about seven times as large as in 1960, but for one person in two the only water available to drink is unsafe and possibly deadly.

The world’s annual military budget equals the income of 2.6 billion people in the 44 poorest nations.

To protect Kuwaiti oil tankers in the Persian Gulf costs the U.S. Navy an extra $365 million a year above normal operating costs, about three times as much as the U.S. budget for research on energy conservation.

On the eve of the 40th anniversary of the Universal Declaration of Human Rights, 2 billion people live in Third World countries where governments make frequent use of torture and other forms of violence against their own people.

The world spends 2,900 times as much on national military forces as on international peacekeeping efforts.

The nuclear bomb inventories of the two superpowers, already sufficient to destroy all life on earth many times over, increased in 1987 at the rate of 16 per week.

More wars were being fought in 1987 than in any previous year on record; four-fifths of the deaths in those wars were civilian.

Research on Acquired Immune Deficiency Syndrome (AIDS) is to receive $344 million in US public funds in the coming year, about 9 percent of the amount to be spent on Star Wars research.
Perspectives on the

A global arms race with a prodigious appetite for funds has absorbed over 15 trillion dollars ($15,200,000,000,000 in 1984 US dollars) of the world’s wealth since 1960. The steady rise in military outlays in the 28-year period is unprecedented. In 1987, it is estimated, world military expenditures in constant dollars are about 2.5 times the level of 1960. As *chart 1* reveals, the rise in arms spending has far outstripped the improvement in global living conditions. In an era of military affluence, one billion people still live in abject poverty.

Over these same years, 81 major wars have been fought and 12,555,000 children, women, and men killed in them. Despite the existence of tens of thousands of nuclear weapons—reputed “keepers of the peace”—hostilities have been more frequent and deadly in recent years. More wars have been fought so far in the 1980’s than in any previous decade in history.

Since this enormous sacrifice of lives and of resources is so often explained in terms of “national security,” an alert public will want to keep both the purpose and results under close—and skeptical—scrutiny. Some years ago, presumably when war ministries became defense ministries, military establishments laid claim to national security as their exclusive preserve. The record suggests that they have used it badly. The common security, both in the national and international context, has been undermined by an obsessive, single-minded emphasis on military force to resolve issues and satisfy ambitions, whether political, religious, economic, ethnic, or personal.

While there are now a few reassuring signs that the public’s determination for peace is beginning to reassert control over the military steamroller, the corrective process is unlikely to be easy or quick. Years of military excesses have created an environment which is more unstable and more dangerous to human life than at any time in history.

The dangers take many forms. One is the threat of mass murder posed by the accumulation of weapons of unimaginable destructive power. Present nuclear arsenals, scattered worldwide, alone represent over 2,600 times the explosive force of all armaments used in World War II, when 40 million people were killed. And these are only part of the weapons stockpiles today. Rapid advances in military technology, unmatched in the civilian world, have immeasurably enlarged the range and kill-power of so-called conventional arms as well. Every hamlet has been brought within the orbit of conflict, every inhabitant made a potential victim of random annihilation. Militarization presumably designed to insulate and protect the nation state has in fact united the world’s population in a precarious mutual vulnerability.

In its economic effects, the arms race is also life-threatening. Demands on the public purse are its most visible sign. There it is in direct competition with the urgent requirements of a growing population for such basic needs as an adequate diet, health support, environmental protection, the education and training that are central to the development process. Three charts opposite illustrate the grotesque and growing disparity in the allocation of the world’s resources between military and civilian needs.

Beyond the obvious trade-offs in budgetary terms, there are close links between military and socio-economic priorities that are more hidden from view. Their effects may be slower acting but they can be deeply debilitating for the economy at large. A few of the connections are illustrated below; the economic repercussions are further discussed on pages 21–22.

- Military programs lay claim to a disproportionate share of trained personnel and research talent, and are in a favorable bargaining position to outbid
"When we discuss national security, we tend too often to give it a military label. It is, in fact, much broader than military power and much more complex. There can be no security without a commitment to social betterment."

Senator Hubert H. Humphrey
United States, 1976
from the Foreword, WMSE 76

civilian industry for it. As a result, investment, productivity, and a nation's competitive strength in international markets suffer.

- The military emphasis on high technology produces relatively fewer jobs than would be created by comparable sums spent for education, health, inner-city housing, and other civilian needs. Unemployment rises.

- Military spending generates buying power without producing an equivalent supply of economically useful goods for the civilian market. The excess of disposable income, unless restricted by taxes, steadily builds up a generalized pressure on prices. Inflation is a result.

- Military production yields goods that are destroyed or used up without creating a solid foundation for future production. Growth lags.

Political instability within nations is also associated with excessive militarization. Heavy military spending creates a correspondingly large bureaucracy which grows in influence within government, and not infrequently becomes the ruling power. More than half the governments of Third World countries are now military-controlled. Such leadership has usually been autocratic, often inept and chaotic. Deepening poverty and social discontent are the results. Official use of violence against the citizenry is common.

Even in some industrial countries where there is a strong democratic tradition undue military influence is increasingly seen in the highest echelons of government. One result is a greater emphasis on secrecy. Public reporting and accountability are circumscribed. Military solutions to political problems become more common and less easily challenged. The ability of the average citizen to influence policy is diminished. The militarization which builds barriers to openness and accountability within nations also limits the opportunities for cooperative endeavor among nations. In a world now tightly knit and interdependent, only the development of positive links between countries and concerted international action can ensure the common security. Today's world calls for a new global vision, one less diverted by military fantasies and more attuned to the realities of human needs.
“What most needs to be contained, as I see it, is not so much the Soviet Union as the weapons race itself.”

George Kennan
United States, 1986

Dynamics of the Arms Race

The surge in world military expenditures has become the symbol of an arms race out of control. Estimates prepared for this publication indicate that world outlays in current prices and exchange rates had reached $880 billion in 1986 and possibly $930 billion in 1987. Although some retrenchment has occurred in parts of the Third World, higher military spending in conflict areas and the apparently undiminished military extravagance of the two superpowers keep overall expenditures rising.

In volume terms, that is, excluding changes in prices and exchange rates, there are some encouraging signs that the rate of increase in military spending is slowing. In constant 1984 dollars the most recent year-to-year increases appear to be less than half that of the period 1980-84. A slower rate of real growth, however, does not necessarily mean that a reduction from the extraordinary spending levels of recent years is yet in sight.

Two other statistical indicators commonly used to gauge military trends, the numbers in the armed forces and the flow of arms in international trade, also carry some suggestions of a leveling off in growth. In neither case, however, is the overall picture unambiguous. The world’s armed forces (regulars) declined from a peak of 26,982,000 in 1984 to 25,752,000 in 1986, but that big drop was in China alone; in the Middle East and in South Asia the numbers were rising and by 1987 had brought the total up to 26,620,000. Arms transfers, according to the official US count, fell sharply in 1985 in constant US dollars, after levelling off between 1981 and 1984. Sales to Third World countries were down appreciably. Three-fourths of the drop in trade volume, however, was accounted for by the Middle East. Recent reports of secret trade through an extensive international network of arms dealers suggest that a massive undercover flow of weapons could have escaped the official count. It may be premature to sound the death knell of the Golden Age for arms trade.

Beyond the broad measures of trend, there are indications that several restraining factors are exerting greater pressure on governments’ military outlays:

- Worsening economic conditions are a strong influence, particularly in developing countries but also in industrial countries, both east and west.
- In long-standing military alliances, cohesion has become less dependable: budgets as well as foreign bases are affected and in the Pacific and Nordic areas nuclear-free zones are on the agenda.
- Increasingly Third World leaders are speaking out against interventions and arms buildups that threaten regional stability and drain resources desperately needed for development.
- And especially significant for its broad political implications, the public’s voice for restraint is heard more widely. Not only is it stronger and more sophisticated but it is also accorded more attention by political leaders.

Given time, these pressures will undoubtedly have a significant effect on policies and the tempo of the arms race. However, it is already clear—the prolonged superpower negotiations on nuclear arms are a clue—that rapid, dramatic change is unlikely. A very large and politically influential military-economic structure is in place, operating not only within national boundaries but through a closely-knit fraternity of private dealers wise in the ways of building fortunes and consolidating power. Scaling it down to a size more compatible with the earth’s resources and the reasonable needs of national defense may take years of determined effort of a concerned public. Meanwhile, developments in several key areas bear close watching for any clues of significant change that is favorable or unfavorable to the public at large.

*The latest official US estimate is $896 billion for 1985, a difference which largely reflects the higher spending totals ascribed to the Warsaw Pact countries by the US Government (pages 54-55). A clear indication of the uncertainties hidden in all calculations of world military expenditures is this year’s announcement by SIPRI, the highly respected peace research institute in Sweden, that it is for the present discontinuing both regional and global estimates of military expenditures.
Budget-power

The extreme concentration of military power in a few states, so evident in the earliest records of military expenditures pre-World War II, is still essentially true today. A sharp rise in the number of independent nations and the spread of military capabilities throughout the world have not significantly diminished the dominant influence of a handful of countries. Just six of them (US, USSR, United Kingdom, France, West Germany, and China) accounted for 85 percent of the world's military expenditures in 1960 and for 75 percent today. There are now many more competitors in the arms race but these are still the big six. They set the pace for all the rest, and by their own actions for restraint could affect trends broadly.

No country remotely challenges the superstar status of the US and USSR. Together they command more military power than all the rest of the world put together. They also control more than 80 percent of the weapons research and 97 percent of all nuclear bombs. Their annual military expenditures far exceed the entire income (GNP) of the continent of Africa, which has a total population comparable to their own.

A concentration of military power to this degree affects the momentum of the arms race in several ways. One effect is an intangible, unrelated to any specific actions taken by the major powers. Leadership invites imitation. When national prestige and profit appear to be closely associated with the size of arsenals, other states have an incentive to acquire their own capability. The military fever is contagious.

In other more direct ways—through aggressive research and marketing activities, global disposition of forces, and undercover operations—the leading powers stimulate both the further spread and quality upgrading of weapons inventories. Central to the process is the competition between the superpowers, each operating with exaggerated visions of the capabilities and threat posed by the opponent. While extreme secrecy on the Soviet side fuels fears in the NATO alliance, the rapid technical advances and generous budgets in the West undoubtedly have an equivalent effect on the Soviets.

On occasion the fantasy element in military planning can roam far from reality, as the US examples below suggest. In the past it has had an influence on official policy that reality, which often makes a public appearance considerably later, has seemed powerless to correct. This will change only as the evidence and the decision-making process itself are more exposed to public view. The increasing efforts by specialists to do this, both within and outside government, are a most encouraging harbinger of change.

Gaposis

In military circles the numbers game is the biggest game in town. No one wants to lose the leading edge to the opposition. The two major players, like the hawks that they are, watch the opponent's every move. Alarm-rums and illusions blend into reality.

The Americans talk more freely than the Russians about the threats that haunt their nightmares. There is a season of the year called budget-time, when gaposis is especially virulent.

In the 1950's, the "Bomber Gap."
The fear was that the Russians would have 600-700 long-range bombers by 1960.
What they actually had by then was 190. Throughout the life of the gap, the US apparently always had a superiority of at least 300 bombers.

In the 1960's, the "Missile Gap."
The USSR was expected to have 500-1,000 intercontinental ballistic missiles by 1961.
Later it developed that what they actually had then were 10, while the US had 200.

And the "ABM Gap."
The USSR was expected to have by the early 1970's 10,000 interceptors in a nationwide anti-ballistic missile (ABM) system.
The actual count proved to be 64 interceptors and essentially a defense against bombers rather than missiles.

In the 1970's, the "Hard-Target-Kill Gap."
New Soviet missiles, the SS-19 in particular, were judged accurate enough to destroy all US land-based missiles (ICBM's).
Assessments in the 1980's found this unrealistic for several reasons; among them the "Silo-killer" SS-19 was found to be less accurate than originally gauged by more than one-third.

In the 1980's, the "Spending Gap."
An unrestrained growth in Soviet military spending, plus

the presumed danger to the ICBM's, had opened a "window of vulnerability" in US defenses.
A CIA re-assessment in 1983 showed that Soviet procurement had levelled off during 1977-81 and that the increase in overall spending was half earlier projections.

And the "Laser Gap."
The USSR could deploy nuclear-powered X-ray lasers without further testing, while the US, behind in the technology, required nuclear tests.
In response to a Congressional inquiry in 1986, CIA stated that it did not believe the Russians could deploy the weapons without additional tests.

And the "Tank-Armor Gap."
Many Soviet tanks could be virtually invulnerable to American anti-tank missiles thanks to their use of an Israeli-designed armor.
Not so, said an official Pentagon spokesman 10 days later, the US Army's new TOW-2A missile will penetrate a Soviet tank equipped with the new armor.

And the "Chemical-Warfare Gap."
USSR-backed forces in Southeast Asia were believed to be waging toxin warfare, dropping lethal yellow rain in violation of solemn treaties.
British, French, and Swedish laboratories found no evidence of toxins in environmental samples, nor did America's own official investigators. Bees, not bombs, were apparently at fault.
only some of the channels for proliferation. They do not, for example, cover arms moving to non-governmental groups, nor transactions like the official but secret trade with Iran which has made headlines in 1987. The black market in arms deliveries by private dealers alone is said to be a multi-billion dollar industry.

Some of the unrecorded channels for international proliferation of weapons are:
- Licensed production
- Co-production
- Industrial espionage
- Military advisors abroad
- Training of foreign forces
- Thefts from overseas arsenals
- Official but covert arms supply
- Covert military operations
- Black market trade by private dealers
- Capture of equipment during hostilities

The spread of sophisticated arms throughout the developing world has been one of the most striking, and disquieting, features of the modern arms race. What we know of the dimensions of the international trade in weapons can be only partially gleaned through official statistics. A vast commercial network operates clandestinely as well as through approved channels. Governments pursue their own interests, often secretly. In the major weapon-producing states in the west, governments have a unique buyer/seller partnership with private business. They also serve as a regulator of the trade. The combination of roles is basically in conflict. Increasingly, commercial interests appear to be dominant and limits or controls on the trade less effective.

Officially-sanctioned arms exports are in any event merely one of several channels through which militarization has taken hold in the poorer countries. Friendly foreign forces, a visible presence in over 60 of the countries, provide training as well as weapons to client states. The technology for arms production is spreading through agreements with established arms manufacturers, as are covert trade and the devious secret arrangements which facilitate it.

In the overall picture the diffusion of advanced weaponry has an importance beyond the substantial sums involved. Third World economic development has been distorted by it, and the desperately needed opportunities for improved living conditions severely affected. As weapons have become increasingly powerful and lethal, violence is also on the rise. Over half of the arms exports to the Third World go to countries which have used torture and other forms of violence against their own citizens. The supreme irony of all is the boomerang effect of the hard-driving competition to sell weapons: governments are arming their enemies, both current and potential.

Trade, Aid, and Bases

The overall value of the international arms trade is subject to many uncertainties but available data collected by the US Government (USG) and published by the U.S. Arms Control and Disarmament Agency (ACDA), put the annual average in the 1980's at about $36 billion a year. The bulk of the trade since the mid-1960's has gone to the Third World. In recent years these countries have taken 75 percent of all imports—a reckless use of foreign exchange which has left many burdened with unmanageable foreign debts. The official US series shows a drop in imports of the developing countries in 1985, the latest year for which a count is available (chart 5). How much the clandestine (and unrecorded) flow of arms to the Middle East war zone and other areas may actually offset the recession-related decline in orders from some parts of the Third World cannot yet be determined. While the Iran-Iraq war rages on, the international arms market is wide open.

New wealth in the oil-producing countries has played a major role in the scramble for sophisticated weapons. In the decade ending in 1985, the five largest arms importers were Iraq, Saudi Arabia, Libya, Syria, and Iran in that order—all but Syria as an integral component of foreign policy, a means of strengthening political ties, compensating for overseas basing rights, and reinforcing armed strength in friendly countries which appear to be under foreign or internal military threat. Economic motivations are also of prime importance: officials see arms exports as a boon to the balance of payments, also as a means of keeping production lines open and recovering some of the costs of research and initial capital investments.

For reasons of this nature, governments can be expected to continue an active, probably intensified, effort to stimulate weapons orders and offset any slump in trade in non-military goods. The British Government has recently established a separate
Dubious Deals Deviously Delivered

1987 will go down in history as the year the cover was blown. Secret arms deals were nothing new. What made the difference in 1987 was the sheer number and scope of the public disclosures. Like a fascinating kaleidoscope, they revealed dazzling patterns, seemingly unlimited—patterns, in this case, of chicanery, official and private, on a global scale; of government ineptitude, deception, and abuse of power; of an international network of presumably reputable officials and private businesses trading in the instruments of death like hoods in a third-rate drug mafia.

A few glimpses into the undercover operations cannot possibly convey all the ramifications of a worldwide arms supply network. But they may serve as a reminder that there is more to the arms business than official statistics will ever tell us.

- In March 1981 the Director of the CIA proposed covert support to pro-US forces in Nicaragua, Afghanistan, Laos, Cambodia, Grenada, Iran, Libya, and Cuba. An allocation of $19 million for “covert activities” against Nicaragua was authorized that same month. By 1987, the US Administration’s proposed budget for Nicaragua alone was $270 million.
- In 1982 the CIA provided Afghan guerillas with bazookas, mortars, mines, etc. primarily of Soviet manufacture. Then estimated at 30-50 million a year, half paid by Saudi Arabia, covert arms aid is now put at $600 to $1,000 million a year. (If correct, this would be more than the USSR provides its puppet government in Kabul, according to US Government (USG) statistics.)
- Not on the CIA's 1981 list but beneficiaries of covert US aid in 1986 and 1987, the guerillas (UNITA) in Angola received yearly about $15 million of equipment, including Stinger missiles.

Since USG arms trade data for all countries cover only transfers to government, they show no US arms exports between 1981 and 1985 to any of the countries named above.

- China, a major supplier of arms to Iraq according to USG data, has also provided Silkworm missiles and jet fighters to Iran. Shipments are estimated at over $2 billion for the last two years. Officially neutral in the Iran-Iraq war, China denies selling weapons to either side.
- USSR, by far the largest supplier to Iraq according to USG, has also furnished SAM-7 surface-to-air missiles to Iran.
- Powder makers in Netherlands, France, Belgium, and Israel are among members of a close-knit organization of producers of “propellant powder” which have repeatedly provided tons of explosives to Iran.
- In 1985, over 400 tons of arms, mainly US-built spare parts for F4 and F14 aircraft, were delivered to Iran via Adis Ababa by a Belgian firm using a British cargo plane chartered in Zaire.
- Also in 1985, a Danish freighter called in Poland, then Portugal, picking up a multinational cargo of munitions, including Soviet-made AK-47 rifles, West German G-3 assault rifles, and US-made machine guns. With end-use certificates for Guatemala, it arrived instead in Honduras where it was unloaded by the Nicaraguan rebels.

The underground arms supply network stretches from Chile to Yugoslavia to Pakistan to North Korea. At least 20 countries sell arms to Iran and Iraq, most to both of them.

- Israel, which had been secretly supplying Iran with American-made weapons (contrary to the legal requirement for prior US concurrence) was officially given US permission in 1981 (contrary to the existing embargo on arms to Iran). Israeli arms sales to Iran are estimated to have reached $500 million a year, considerably more than the USG reports for Israel's total arms shipments to all customers.
- Under the arms embargo to Iran, UK exports of “non-lethal” equipment included tank engines and naval landing craft.
- The US State Department in 1983 launched Operation Staunch, a program designed to discourage countries from selling arms to Iran. The program was pursued vigorously in the years following, averaging several official protests a month to foreign governments to urge them to halt potential sales.
- Working through Israel and private dealers, US officials in 1985 and 1986 secretly arranged for the sale to Iran of TOW anti-tank missiles and HAWK anti-aircraft missiles and spare parts. Part of the profits from the arms sales were diverted to the contras in Nicaragua.

While conducting Operation Staunch, the US not only sanctioned sales of American weapons to Iran by Israel, but dealt directly with Iran in an attempted secret swap of arms for hostages.

- Italy has arrested one of its best known industrialists, head of a major weapons concern accused of selling mines that now threaten Persian Gulf shipping. Ostensibly destined for the Nigerian army, according to an end-user certificate prepared by a Spanish company, the mines were delivered to Syria through a Swiss intermediary and then forwarded to Iran. Italy bans arms sales to both Syria and Iran.
- Austria is investigating the diversion to Iran of 110 heavy artillery guns licensed for sale to Brazil and Libya in 1985 and 1986, but not received in those countries.
- Sweden has indicted the head of a trading company which employs 15 people and has a yearly revenue of about $300 million. Separately two employees of Sweden's largest maker of arms and munitions have been charged with crimes. Sweden has the world's strictest arms export controls, prohibiting sales of Swedish-made weapons not only to countries at war but to countries where there are armed internal disorders or violations of human rights.
- As of the end of 1986, the US Government had brought 44 prosecutions for illegal commercial shipments or attempted shipments of arms to Iran. At the end of 1987 investigations of USG illegallities in the arms trade were still under way.

Investigations of illegal arms sales to Iran have been started in more than a dozen countries.

World Military and Social Expenditures 1987-88 11
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**Global Spread of Arms and Armed Forces**

<table>
<thead>
<tr>
<th>Country of Origin of Forces</th>
<th>US and/or NATO Allies</th>
<th>USSR and/or WP Allies</th>
<th>All Other</th>
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<tr>
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<tr>
<td>USSR</td>
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<tr>
<td>Other</td>
<td>1,500</td>
<td>100</td>
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*Forces shown only where estimated total is at least 100.**  
**Includes only those countries for which the USG source shows both supplier and recipients. Abbreviations of country names not on table opposite are: Ch (China), Cz (Czechoslovakia), It (Italy), WG (West Germany).*
export department to promote arms sales. France employs an estimated 300,000 people in a giant arms industry which depends on exports for about half the weapons it produces. Sweden ships abroad half of its production which is estimated at $1 billion. The US is especially generous with loans and gifts to countries buying weapons; over the past five years it provided a total of $28 billion in military assistance, more than $12 billion of it in the form of outright grants (gifts).

**Production base**—Another factor of importance to the trend of trade in the future is the growing role of some Third World arms producers. Attracted by the perceived economic benefits of the business and by official interest in an independent source of supply, Third World arms production began to expand 10 years ago, raising its share in the total world trade from less than 4 percent at the beginning of the 1970’s to a high of 12 percent in 1984. In the past decade one developing country in three has exported some arms, although most have had relatively little sales volume.

The increase in sources of supply has made the arms market both more competitive and less subject to government regulation. Simpler weapons and lower prices are associated with most Third World production, which makes these arms more easily acquired by independent dissident groups.

Competition among the larger industrial states for arms sales has also tended to increase the spread of production technology for the more advanced weapons systems. With their purchases of arms, buyers such as South Korea, Indonesia, and Singapore want tie-in arrangements to transfer at least some of the technology or assembly to their own plants. Offset agreements of this sort have become more common, promising the further spread of high-technology production, and more competition to sell it.

**Training**—Military training is a necessary component of a global arms market. Essential to the distribution of sophisticated weapons, it also educates the palate, ensuring a continuing appetite for the newest in arms technology.

Virtually every developing country has had armed forces trained by the major powers, communist or western, and quite a few have had help from both. Training is not included in trade statistics, but some clue to its importance is provided by the information available for the US and USSR. According to CIA estimates, 69,680 military personnel from developing countries were trained in the Soviet Union between 1955 and 1985, the majority coming from Africa and the Middle East. The US military training program appears to be even larger. Between 1950 and 1986, the Department of Defense (DOD) reports that 457,675 personnel from the Third World were trained, the largest percentage by far from the Far East and Latin America.

For many developing countries, professionally trained soldiers, sophisticated weapons, and a fledgling arms industry have come to represent the symbols of nationhood. They also foster a political leadership and entrenched bureaucracy oriented to power through further military expansion. It is hardly pure chance that three-quarters of those trained by the superpowers in years past came from countries with governments currently under military control.

**Forces abroad**—A foreign military presence, even a friendly one, can be conducive to the militarization of developing countries. One current example is Honduras, where US funds have helped to improve ten airfields since 1983, as well as build facilities for US forces stationed there and the thousands more on manoeuvres. US military construction in Honduras over the next five years will cost about $50 million, which is more than the Honduran annual military budget before the friendly forces arrived, but a minor amount in comparison with the $8,400 million which the DOD spends yearly for bare operating costs of its worldwide network of installations outside continental US.

Other nations’ expenditures on foreign bases are not as accessible, but there is information on the numbers of military personnel operating outside their own borders. The available record, although not complete, shows an average ratio of 1 serviceman abroad to 14 on home territory. For the superpowers, the new empire-builders, the ratio is closer to 1 abroad to 4 at home.

The projection of military power across continents, as shown on map 1, illustrates a characteristic and especially dangerous feature of today’s militarism. Globalization is as true in military as in economic matters. “Defense,” as interpreted by the major powers, has taken on global perimeters. With the weapons now widely available, and the brief, often computerized, response time necessary, the wide dispersion of forces also increases the risk of sudden, uncontrollable conflict.

*Does not include 244,800 service personnel abroad.*

*Peacekeeping force in Sri Lanka.*
Technology rampant

Even more than the giant-sized budgets or the global reach of military power, the rapid, unconfined march of weapons technology defines the current arms race. Over the course of a few decades—the blink of an eye in the history of humanity—the art of warfare has been revolutionized.

Research—The driving force of the technology revolution takes a relatively small portion of world military expenditures. Government spending on military research and development (R & D) represents less than 10 percent of total military expenditures, and that is spent by very few nations. In 1986 the United States, together with the nine members of the European Community (shown on chart 6), represented over half of global expenditures estimated at slightly more than $80 billion in total. Soviet military R & D, which can be only roughly estimated, is believed to account for virtually all of the remainder.

As the chart suggests, the intense superpower competition has resulted in military research dominating the global R & D effort financed by public funds. The US Government devotes well over twice as much research money to weapons as to all other research needs combined—including energy, health, education, and food—and the Soviet pattern is believed to be similar. Because of the enormous resources weapons R & D has commanded, in skilled personnel as well as in money, the pace of innovation has no counterpart in the civilian field.

Research creates its own momentum through irresistible pressures to explore the next horizon. The results of exploration are guaranteed a market, one unlimited in its ability to absorb the newest that brainpower and technology can produce, at no matter what cost.

In the superpower competition there is also an action-reaction process which intensifies the technological drive. This is evident in the development of conventional as well as nuclear weapons (see below). Each side considers it essential to develop and deploy whatever is technically possible on the grounds that the adversary is already researching the problem, or will soon do so. The inevitable response from the adversary confirms the accuracy of the expectation and justifies the next round in the competition. R & D is the quintessential instrument through which antagonistic cooperation between the leading opponents ensures a never-ending spiral in weapons technology and expenditures.

<table>
<thead>
<tr>
<th>Action</th>
<th>Reaction</th>
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<tbody>
<tr>
<td>Nuclear Weapons</td>
<td>Conventional Weapons</td>
</tr>
<tr>
<td>US 1945 atomic bomb</td>
<td>US 1949 main battle tank</td>
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<tr>
<td>US 1946 electronic computer</td>
<td>USSR 1955 nuclear-powered submarine</td>
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<tr>
<td>US 1948 intercontinental bomber</td>
<td>US 1955 large-deck aircraft carrier</td>
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<td>US 1952 thermonuclear bomb</td>
<td>USSR 1955 wire-guided anti-tank missile</td>
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<tr>
<td>USSR 1957 intercontinental ballistic missile (ICBM)</td>
<td>US 1959 photo reconnaissance satellite</td>
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<td>USSR 1957 man-made satellite</td>
<td>US 1960 supersonic bomber</td>
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<td>USSR 1958 early-warning radar</td>
<td>USSR 1960 computer-guided missile</td>
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<td>US 1960 submarine-launched ballistic missile (SLBM)</td>
<td>US 1961 nuclear-powered aircraft carrier</td>
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<td>USSR 1960 multiple warhead (MRV)</td>
<td>USSR 1961 surface-to-air missile</td>
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<td>USSR 1968 anti-ballistic missile (ABM)</td>
<td>US 1964 long-range fighter bomber</td>
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<tr>
<td>USSR 1970 multiple independently-targeted warhead (MIRV)</td>
<td>US 1964 air-to-surface missile</td>
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<tr>
<td>USSR 1971 sea-launched cruise missile</td>
<td>USSR 1970 high-speed attack submarine</td>
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<tr>
<td>US 1985 new strategic bomber</td>
<td>USSR 1972 heavy attack helicopter</td>
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<tr>
<td>USSR 1987 single warhead, mobile ICBM</td>
<td>US 1975 jet-powered combat aircraft</td>
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<tr>
<td>US 1990? stealth bomber</td>
<td>USSR 1976 large amphibious assault ship</td>
</tr>
<tr>
<td>USSR 1978 multiple-launch rocket system</td>
<td>USSR 1978 binary (chemical) weapons</td>
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</tbody>
</table>

* Belgium, Denmark, France, Greece, Ireland, Italy, Netherlands, United Kingdom, West Germany.
Conventional Weapons—In the superpower race for the newest and the most powerful instruments of war, the US has invariably been the winner. The Joint Chiefs of Staff, in their annual assessment of US-USSR standing in basic technologies, still show the US superior in 14 out of the 20 technologies examined, the USSR ahead in none. In 6 of the 20 technologies, the two superpowers are judged equal. The US intelligence community estimates US leads of 7–12 years for major categories of advanced technologies.

The results of the military R & D drive show in an assortment of weapons which is spectacular in variety and lethality. The newer weapons, even those euphemistically called “conventional,” are highly complex. The emphasis is on speed, computer-controlled guidance and firing, and widespread destruction at enormous distances. Firepower is vastly enhanced. The Browning machine gun which could fire 250 rounds per minute can now be replaced by a Minigun which fires 6,000 rounds per minute. The artillery shell which had a destructive area of 2,000 square meters gives way to a multiple launcher rocket system which can destroy an area of 500,000 square meters. Compared with the torpedo of World War II which could travel 6 miles, today’s sea-launched cruise missile can cover 1,500 miles.

Naturally this sophisticated technology is costly. Examples of major US military equipment indicate that price increases since World War II have been at least as dramatic as the growth in destructive power. The four weapons systems illustrated in chart 7 are included in the US budget request in the quantities indicated for the year ahead. Their projected cost for fiscal year 1988 adds up to $8,327 million, or 105 times the $79 million that an equivalent package of weapons (i.e. weapons with those names and functions) would have cost in 1945. Compared with the weapons of World War II, the tanks in the new budget are projected to cost 55 times more, submarines 129 times more, fighter planes 289 times more, and destroyers 88 times more.

The average price increase of 105 times in these weapons contrasts with the average price inflation of all goods and services in the US of 6.5 times in the same period. If the weapons costs had gone up no more than that average increase (shown in the numbers over the lower bars on chart 7), this particular procurement package would cost US taxpayers $513 billion instead of $8,327 billion, a tidy savings of 94 percent.

How much of the unprecedented escalation of weapons prices results from quality improvements necessary to an adequate defense, how much from gold-plating, excessive profits, pure waste, and the self-generated momentum in the technology is impossible to estimate with any precision. Recent studies in the US suggest that about one-third of contract costs is wasted, the result of overcharging and inadequate supervision. Not included in these estimates are overpayments resulting from the purchase of more weapons than needed.

The complexity and sophistication of the new military hardware affect not only prices but also reliability. Attrition rates go up as well as maintenance costs, greatly increasing the practical difficulties of keeping a force in operation. The B-52 bomber costs $7,000 to operate per flying hour, the new B-1, $21,000 per flying hour. High-tech weapons are more vulnerable to breakdown and difficult or impossible to repair in the field. Jet aircraft with complicated electronics have been found to be in maintenance half the time.

What the technological drive means to the civilians of the world is not only escalating military budgets and a heavier burden of debt and taxes, but also a much greater chance of being drawn into any conflict that does occur. The destruction of modern war is indiscriminate. It no longer distinguishes between civilian and combatant.

“Somewhere the spending has got to stop . . . Economic realities are just as relevant to the battlefield as they are to the market place. And balance matters too. An overconcentration on military technology to the detriment of civilian R & D is unhealthy for the economy as a whole.”

Sir Geoffrey Howe, United Kingdom, 1987
The Nuclear Follies

In the nuclear arms competition, technology has produced its most magnificent array of horror weapons. Both in quantity and in quality, the nuclear weapons of today are light-years away from the two primitive bombs which in 1945 obliterated two Japanese cities and 200,000 Japanese.

Some idea of the radical changes which have been achieved in both numbers and technology of nuclear weapons is conveyed by charts 8 and 9 and by the Action-Reaction sequence on page 14. Strategic weapons, because of the concentrated explosive power that they carry and their intercontinental reach, are the pillars of the nuclear establishment—and symbols of the Doomsday that they promise. Each weapon is powerful enough to erase a city and its surroundings; used in quantity they could blot out civilization.

Race to Overkill—Since World War II the stockpile of nuclear weapons has never ceased to grow. First to possess them, and for 10 years the only country to have them, the US has increased the number of nuclear weapons in its operational strategic forces from 9 in 1946 to 12,874 in 1987. The USSR, which began deployment in 1956, also steadily enlarged its strategic force but until the late 1970's lagged well behind the US in number of weapons. A big leap forward in the last decade has brought the Soviet and US strategic nuclear forces in rough parity.

Even chart 8 does not portray the overwhelming size of the nuclear arsenal which has been assembled for “deterrence.” Not included there are sea-launched and ground-launched cruise missiles, intermediate range ballistic missiles, and weapons aboard aircraft carriers and shorter-range bombers, all of which are capable of reaching the home territory of the US and USSR but are not generally treated as strategic in war plans. Also outside these numbers are thousands of tactical nuclear weapons—the mines, artillery, torpedoes—which are designated for battlefield use.

Further adding to the global count are the nuclear warheads and bombs of the three other acknowledged nuclear powers: an estimated 534 weapons held by UK, 473 by France, and perhaps 350 by China. Israel’s unannounced inventory is estimated at 100–200 weapons.

Altogether the numbers suggest a global stock now of close to 55,000 nuclear weapons. In terms of destructive force they have a total yield of approximately 16,000 megatons, or 16,000,000,000 tons in TNT equivalent. A few comparisons may help to give some human perspectives to these incredible numbers and the excessive kill-power that they reflect (see “overkill”).

Quality improvements over the years are in many respects even more dramatic and dangerous than the growth in numbers of these weapons. Technical refinements, supported by continual testing, have radically increased the efficiency of nuclear warheads, as well as the variety, speed, and accuracy of the means of delivery. Increased efficiency means that mini-nukes are now possible. A nuclear weapon can be as small as a suitcase or, like the Soviet Union’s monster ICBM, the SS-18, can measure 120 feet long and carry 10 warheads 7,000 miles under its own power. The yields of even the smallest of today’s weapons are many times the yield of the Hiroshima bomb.

The greater effectiveness of these weapons, along with the growth in numbers, have combined to alter what the public was given to believe was the sole mission of nuclear weapons, i.e. the deterrence of war. Development has gone far beyond that objective. The nuclear force which now exists is an aggressive, first-strike force—one designed to destroy the enemy’s weapons and command structure at the first sign of a hostile move. Since advantage obviously goes to the side striking first, the nuclear force must be on hair-trigger alert. The potential for error and global catastrophe is enormous.

1The Stockholm Peace Research Institute (SIPRI) reports 1,648 nuclear tests by US, USSR, UK, France, China, and India between 1945 and July 1987.
MX can travel 7,000 miles under its own power. Little Boy, the nuclear bomb dropped on Hiroshima, was carried by a B-29 bomber with a maximum range of 4,000 miles.

MX has a speed of more than 15,000 miles per hour. The B-29 carrying a 5-ton Little Boy travelled at 360 mph.

MX is computer-guided to deliver its cargo within 100 yards of targets. Little Boy's accuracy depended on sightings of the bomber crew.

MX can flatten a target area 60 times as large as the area destroyed at Hiroshima.

MX, officially named Peacekeeper, carries 10 independently-targeted warheads and has a destructive force (TNT equivalent) over 200 times as powerful as Little Boy, which killed or maimed 200,000 civilians at Hiroshima.

Proliferating—Forty-two years after the atomic destruction of Hiroshima and Nagasaki, the number of countries which are known to have acquired nuclear weapons remains relatively small. Most countries, but not all those outside the Nuclear Club, have agreed, under the Non-Proliferation Treaty (NPT) of 1968, not to manufacture or otherwise acquire nuclear weapons or other nuclear devices.

These signs of restraint notwithstanding, the situation is in constant flux and there are elements of serious instability in it, resulting from the spread of the capability to produce nuclear weapons as well as the dispersion of the weapons themselves by the present nuclear powers. (See map 2 over.)

As more countries develop a sophisticated commercial capability, the number of potential candidates for the production of nuclear weapons rises. New problems develop largely out of the dynamics of regional relations, particularly in the Middle East and South Asia. Of the “threshold” countries which have not ratified the NPT, India and Pakistan represent one area of concern. India has nuclear weapons material; neighboring Pakistan reportedly is trying to acquire it. In both states political figures have openly advocated the development of a nuclear deterrent. Israel’s reported nuclear capability, including nuclear devices deliverable by aircraft and missiles, may further stimulate nuclear programs in Iraq and Iran, which are in any case under pressure as a bloody 8-year war drags on.

Meanwhile the commercial nuclear world continues to grow, both in terms of the number of countries possessing nuclear reactors and in the number of operating reactors (chart 10). Through the “peaceful atom,” nuclear technology and expertise have spread into 57 countries. Commercial proliferation has a significance for world security in general, even when not related directly to weapons production. Some of the risks are discussed below.

The world-wide proliferation of nuclear weapons has already occurred through the military activities of the major nuclear powers. There are now approximately 400 ships with nuclear reactors for propulsion, probably twice that number carrying nuclear weapons. They move anonymously through the high seas and into distant harbors without announcing a nuclear presence. Increasingly, conventional weapons as well as the naval fleets of the nuclear powers are dual-capable. The nuclear warheads for their use are widely deployed. In more than 60 countries, airfields, bases, and storage facilities are part of the land-based nuclear infrastructure, foreign hosts to a substantial portion of the nuclear inventory of the five powers.

Dangers—Extraordinary risks are associated with this global network of nuclear dynamite. Weaknesses in the technology, combined with human error, have been repeatedly demonstrated in the past, throughout the nuclear (continued, page 20)
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