
Trade and R&D Policies

*An Aerospace
Industries Association
Proposal*

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AIA

Aerospace Industries Association of America, Inc. (AIA) is the national trade association of companies in the United States engaged in research, development and manufacture of aerospace systems, including manned and unmanned air craft, missiles, space launch vehicles and space craft, propulsion guidance and control units for all the foregoing, and a variety of airborne and ground-based equipment essential to the operation of flight vehicles.

AIA traces its lineage to 1917, when the Manufacturers Aircraft Association was formed to handle aircraft production and patent problems in World War I. After the war, in 1919, the Aeronautical Chamber of Commerce of America, Inc. was established by individuals and companies to promote aviation and advocate its acceptance as an economic force. The Chamber's name was changed to Aircraft Industries Association after World War II and new responsibilities included government liaison on technical and contractual issues. In 1959, Aerospace Industries Association became the name of AIA to reflect the new field of space systems and other developments resulting from the quickening pace of technology.

The aerospace industry is the nation's high technology leader. Aerospace Industries Association represents American manufacturers on the leading edge of technology.



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Summary

Only the most insular of Americans can be complacent about the United States' trade deficit and apparent loss of competitiveness in many high technology industries. The bolstering of the nation's sagging trade performance is critical to achieving a full and sustained economic recovery, and to a strong U.S. international position. It is therefore time for the United States to adopt a dynamic, aggressive and positive program to remain a viable contender in the world marketplace.

The aerospace industry, from its vantage point as the leading manufacturing exporter — and one that is facing increasingly strong government-supported foreign competition — believes the United States requires a strong, clear focus on the two key factors affecting the marketplace: trade policy and R&D policy. The industry believes a national commitment in these areas will obviate any need for the type of industrial strategy in which government picks winners, or involves itself in economic micromanagement.

In early 1984, the Aerospace Industries Association outlined a full program for revitalization of U.S. market competitiveness in the first edition of this paper entitled *Trade and R&D Policies: An Aerospace Industries Association Proposal*. Since that time, a number of specifics addressed by AIA have been dealt with by Congress, among them: establishment of the Foreign Sales Corporation (FSC) export tax incentive in place of the Domestic International Sales Corporation, and legislation permitting greater R&D cooperation among industrial firms. It is gratifying that many members of Congress and the administration are extremely aware of the need to increase U.S. industrial investment and, ultimately, U.S. competitiveness.

Some of the issues which AIA raised in its earlier policy document have not been resolved and some new issues have arisen in the intervening months. In addressing these issues, the AIA basic philosophy has been that national trade and R&D policies must:

- Be national objectives of the highest priority;
- Focus on stability and continuity of programs and policy;
- Have broad-based support from Congress, the administration and the public; and
- Center on a cooperative relationship between government, industry and academia.

It is especially important that government and industry, while working together, maintain their traditional dichotomy of roles. The role of business is to analyze the market, to create, to innovate and to sell products. Industry must:

- Review its own international policies, practices and structures in order to give exports an even higher priority;
- Increase funding for research and development; and
- Increase capital investment to improve productivity, encourage innovation, enhance product quality and lower unit cost, in order to be more competitive here and abroad.

Government can best support fundamental, high risk, long-term payoff research, and can create a policy environment in which business can function effectively and competitively. Government must:

- Root out disincentives and create research, investment and export incentives for industry;
- Promote free enterprise rules in the international marketplace; and
- Intercede where foreign competition is unfair or illegal.

In the long term, the interests of aerospace and other U.S. industries will be best served by the most fair and open international trading system possible, without government support of industrial firms except in areas of fundamental, high-risk research. In the short term, the United States cannot unilaterally disarm economically any more than it can militarily. It must support its businessmen against unfair trade practices — in instances where direct government support exists in such forms as targeting, subsidies and a variety of barriers to open trade. In the near term, therefore, a variety of incentives are needed to establish a fair competitive environment for American businessmen in a world market where competitors are often national governments rather than private firms.

Government support against unfair trade practices is neither industrial policy nor protectionism. In fact, the United States must resist the temptation of protectionism, a very real danger as U.S. industries are hard hit by foreign market advances. Protected industries, however, do not work as hard to be competitive; in the end, protectionism weakens, it does not strengthen. Protectionism breeds retaliation. Protectionism undermines the international trade agreements that the United States has worked for decades to foster.

Rather than protectionism, stable, long-term trade and R&D policies should be the keystone of a program to enhance U.S. world market competitiveness. Commitment to such policies will help America regain its competitive momentum, capitalize on its basic strengths, and be assured the economic health essential to stability, strength and national security. Establishing these long-term joint trade and R&D policies is not a simple task. Consistent support for these must be maintained through different administrations, and those making policy must recognize the extent to which other seemingly unrelated areas affect these policy goals.

2 This new Congress and administration are faced with a number of issues that will be of primary importance to the success of external trade and R&D policies. Among such issues, the budget deficit, tax reform, industrial policy and technology transfer stand out.

Budget Deficit

While a budget deficit, in and of itself, does not constitute a serious economic problem, a series of budget deficits of the magnitude of those anticipated over the next few years almost certainly will. As the recovery matures, government borrowing tends to crowd out industrial investment by raising the interest rate. This is a particular problem for industries making R&D decisions where long payback periods make R&D investments particularly sensitive to interest rates. Further, high U.S. interest rates make dollar-denominated investments particularly attractive to foreign investors, thereby increasing the demand for dollars, and further elevating the exchange value of the dollar on a cost parity basis. The high and increasing value of the dollar seen over the last few years works against U.S. exporters, fosters a high trade deficit and fuels the fires of protectionism.

Finally, in the long term, continued budget deficits will preclude the use of fiscal policy as a tool for moderating the effects of the next downturn in the business cycle. This will adversely impact all U.S. business decisions — particularly long-term investment decisions in R&D, capital equipment and productivity — and U.S. international competitiveness will become the victim.

Tax Reform

As attention focuses on the budget deficit, the issue of fundamental tax reform — under heavy scrutiny in the 98th Congress — will take its place on center stage politically.

Tax reform, along with spending cuts, will be offered as new tax legislation to help offset the substantial deficit, and the effect the deficit could have over the next few years on the health of the economy. Just as important, for many, is the need to make the tax system more fair, more simple, and a more effective stimulant of savings and investment.

Under review will be a number of quite different types of tax reform, from modifications of the existing tax system aimed at expanding the tax base to different tax systems such as a flat tax or a value added or consumption tax. Each proposal must be examined in light of its effectiveness in accomplishing the traditional aims of the U.S. tax system. Of paramount importance to national trade and R&D policies are tax incentives for savings and investment — particularly productive investments — and tax policies related to exports and foreign operations. The impact of the various proposed tax reforms in these areas must be clearly and credibly spelled out.

High technology companies replace much of their existing plant and equipment at a rapid rate and must continually make new R&D investments. Tax policies relating to treatment of R&D and short-lived equipment are therefore extremely important. High technology companies must also be competitive in a worldwide market, and are thus extremely sensitive to the effect of tax policies relating to foreign operations and to exports.

The need to encourage a high level of investment in these areas has been clear to lawmakers in recent years; hence, the existing incentives and moves to strengthen them. Elimination of existing investment incentives can be justified only if the newly structured system will *clearly* stimulate sufficient, offsetting savings and investment.

Tax reform, if it is to come, must be a carefully taken step. Broad economic goals are really a composite of individual and sectoral goals. How each of these are affected will have a resounding impact.

Industrial Policy

Considerable debate has emerged during the past few years on the need for the United States to institute a formal industrial policy. While every government — including the United States Government — has some effect on industry and therefore has an industrial policy whether or not it is defined as such, the current controversy centers on whether government should guide investments in those industries seen as most important to the nation. Advocates of industrial policy feel U.S. industrial performance compares unfavorably with other countries, notably Japan, and that corrective governmental action is necessary. The 98th Congress saw the introduction of numerous diverse industrial policy proposals, but most contained certain key elements including:

- Establishment of a national bank,
- Appointment of a business-labor-government council, and
- Targeting of resources to specified industries.

While such a targeting system may work well in other countries, it is likely to be ineffective — worse, counterproductive — for the United States for two primary reasons: 1) it would subject investments to short-term political decision making, and 2) it could legislate new roles for government and industry — roles which have been demonstrably unsuccessful.

Some advocates of an industrial policy believe that resources should be channeled into high technologies to keep the United States at the forefront. Others believe that resources should be targeted towards smokestack industries to rebuild our industrial base. Realistically, the political solution to this dilemma is likely to be to channel a portion of funds into each area or to fluctuate with the changes in administration from high technology to smokestack industries. Either solution would distort industrial investment without producing a clear national direction. On a smaller but no less important scale, choosing among alternative technologies or programs for funding would also be subject to political pressures.

Investment decisions should be made by American businessmen who have the skill and an established track record for identifying which products and services will be successful. As demonstrated by the unsuccessful synfuels program, the government does not have the expertise or ability to identify new commercial products or to react quickly enough to new market opportunities.

The only industrial policy needed in the United States is that which uses greater government/industry cooperation to encourage the principles of free and fair trade and supports R&D in any industry. When critical problems do arise in specific industries, the government should respond on a case-by-case basis, free to take necessary action but always mindful that all industry/government interactions comprise de facto industrial policy.

Technology Transfer

Although government and industry must guard against the leakage of militarily critical technologies to a potential adversary, technology transfer is an essential and desirable concomitant of international trade which plays a critical and growing role in the economic vitality of the U.S. and other free world nations. Technology is transferred in many ways...

patent literature, university training, government and private publications, conferences, trade shows, career development programs, reverse engineering, product exports, licensing, direct foreign investment, joint ventures, and both government and industry programs for co-production and co-development.

... much of this transfer is desirable in the interests of stimulating innovation and technical progress.

National security concerns have heightened the dialogue on the sensitive issue of technology transfer. Obviously, the possible transfer of critical military technology to potential adversaries necessitates the imposition of certain technology controls. This industry has consistently advocated such controls. Nonetheless, this need must be balanced by the recognition that advanced technology is a commercial asset and most certainly not the sole province of the United States. While the total level of R&D effort and the supply of technological know-how of the United States exceeds that of its principal competitors, the rate of growth in many key areas of industrial innovation by some competitors, particularly Japan, has surpassed that of the United States over the past decade. Other nations have been able to come abreast or take the lead in several important areas. The United States must recognize that:

- Efficient access to foreign technology is now more important than ever to the U.S. economy and the defense establishment;
- The ability of the United States to unilaterally control the international flow of leading-edge, militarily critical (dual use) technology has been reduced, consequently:
 - The importance of multilateral agreements to control the export of militarily critical technology to the East Bloc has increased; and
 - Unilateral controls on free world trade by the United States are not only ineffective in accomplishing their objective but inevitably result in the loss of U.S. competitiveness and place the U.S. military in a position of increased dependency on foreign nations for leading-edge technologies.
 - The efficient transfer of technology is critical to the success of technology-oriented firms in international trade. Novel international business relationships are being developed for intra-industry cooperation which improve business prospects for their participants while providing jobs, income and access to the rapidly growing technology of other nations to the U.S. domestic economy. These agreements work without violating proprietary information of each participant or security controls on U.S. exports.

A National Trade Policy: A Proposal

Introduction

The United States is confronted by an international trade situation which approaches crisis proportions. The U.S. trade balance has been in deficit with the exception of a few years since 1971. The dollar's exchange rate in relation to the currencies of other leading trading partners has made U.S. products more expensive in foreign countries, and competing goods less expensive in the United States. Final 1984 trade deficit figures are expected to exceed \$100 billion. The most significant negative development in the U.S. trade situation in recent years was the 1982 decline in trade in manufactured goods of \$16 billion — from an \$11.8 billion surplus in 1981 to a \$4.3 billion deficit. In 1983, the deficit in manufactured goods increased substantially to \$31.0 billion. The motor vehicle, metal working and consumer electronics sectors have been particularly hard hit.

The aerospace industry, on the other hand, remained the leader in 1983 among manufacturing exporters — as it has been for over 20 years. Aerospace shipped \$16.1 billion abroad and imported \$3.5 billion for a net trade balance of \$12.6 billion.

American private sector firms must compete in a marketplace increasingly characterized by government support of exporters. Immediate U.S. policy action is necessary if American exporters are not to lose further ground. A great deal is at stake. The nation must maintain its economic vigor, to which exports contribute by creating jobs for thousands of Americans and a higher standard of living. A position of strength in the world community requires, too, that the United States maintain a solid position as a trading nation.

While working to establish a sound economic environment — that is, to reduce the budget deficit and correct the imbalance and volatility in exchange rates — the nation cannot fail to recognize the growing importance of exports to that economy and, therefore, the need to aggressively promote exports. Unfortunately, the United States has not been sufficiently committed to export expansion and, in many instances, existing policy has served to retard rather than stimulate exports. Sound approaches to export policy and procedures — the simplification of export licensing is one example — have been spelled out in the Export Administration Act of 1979, but the United States has failed to aggressively implement them. And while the present Administration has framed a positive, U.S. interest-based policy on sales of military equipment abroad, there is need for an assurance of policy continuity — from administration to administration — in this area. Further, in the absence of bilateral agreements, the effect of unilateral export restrictions has been to encourage military sales by other countries. Changes in the international situation will inevitably necessitate new instances of sales restraint, but these must be addressed within a sound, long-term policy framework.

Future policy must root out impediments to export growth. At the same time, the United States should repudiate "negative" approaches, avoiding reliance on protectionism: tariffs, quotas, so-called "voluntary" restraints, domestic content legislation, and so forth. Such policies have at best a short-term positive effect and have serious long-term negative consequences by encouraging similar and potentially stronger retaliatory and punitive actions by other countries, reducing innovation and efficiency and driving up prices. In the end protectionism will weaken, not strengthen the nation.

At the same time, the United States should not mimic other nations' approaches to industrial trade policy. It must avoid the pitfall of substituting government judgment for that of business management's in the allocation of industrial resources to meet the demands of the marketplace. The United States must instead develop an approach based on its strengths and values. Strengths include enormous material resources, demonstrated excellence in R&D, unparalleled capacity for technical innovation and a large, highly skilled populace. A dynamic new trade emphasis should stress these "positives," should set clearly-defined goals, and enable the United States to meet competition head-on with aggressive, consistent domestic and international policies and action. Above all, however, established policy must be aggressively pursued by the government agencies concerned.

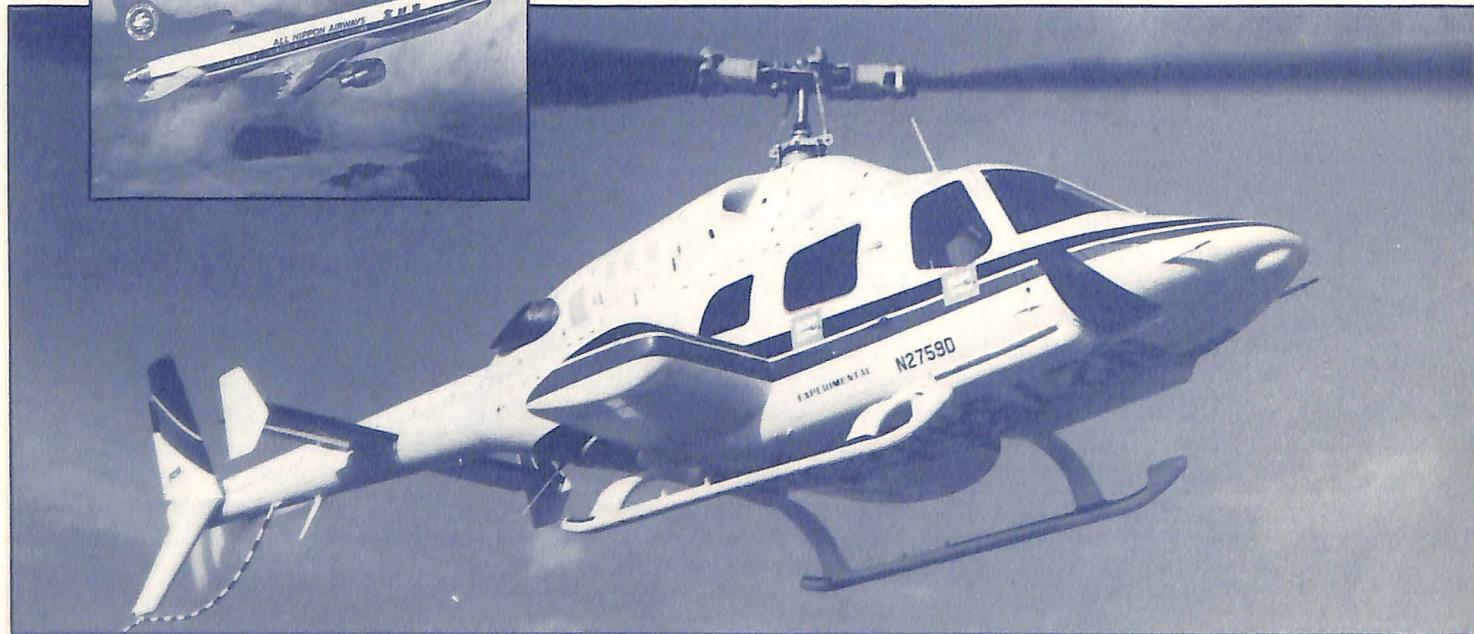
A trade policy can only be effective if government and industry work in concert, both sectors taking measures to reshape those relationships which serve to retard export expansion, and to create instead an environment of mutual support.

There are many areas in which certain legislative and regulatory actions would enhance exports, especially of high-technology products. A few of the more important ones are discussed in the following pages.

Export Tax Incentives

6 For decades, most developed nations, recognizing that their economic well-being is critically dependent on exports, have employed an array of export incentives for their businesses and industries. These incentives have often been tax incentives that are provided either directly by the statutory laws of the various countries or indirectly through the administration of the tax systems of those countries. During this period, the United States has basically had only one export tax incentive, the Domestic International Sales Corporation (DISC). In hearings relating to the DISC legislation in prior years, the United States Treasury Department identified many of the extensive direct and indirect tax incentives for exports provided by other major developed countries.

In response to U.S. trading partners' complaints that DISC was an illegal subsidy under the terms of the General Agreement on Tariffs and Trade (GATT), the Reagan Administration developed a substitute incentive, the Foreign Sales Corporation (FSC). This



proposal was incorporated into the 1984 Deficit Reduction Act (P.L. 98-369), and took effect on January 1, 1985.

The new incentive excludes some of the less desirable DISC provisions: the FSC exempts from tax the income of the export entity both when earned and when repatriated, rather than simply deferring tax; the incremental feature of DISC — which was inefficient and discriminatory in the application of the intended tax incentive — is eliminated; and, deferred taxes accumulated under the DISC incentive are forgiven.

Enactment of the FSC legislation by the 98th Congress was a positive step in respect to not only maintaining and strengthening U.S. export markets, but also, having this export tax incentive conform to GATT rules in order to protect U.S. exports from foreign retaliation. However, if the current trends in foreign competition continue, the FSC incentive may have to be upgraded in order to keep U.S. exporters on an even playing field.

The 1984 Deficit Reduction Act also included provisions that extend for two more years the current moratorium against allocating and apportioning research and development expenses to foreign source income, as required by Treasury regulation 1.861-8. The aerospace industry strongly urges that Congress take action to modify these regulations on a permanent basis to provide that U.S. R&D expenses are allocated solely to U.S. income. The allocation formula of Section 1.861-8 represents an incorrect interpretation of Sections 861, 862 and 863 of the Internal Revenue Code as they relate to the foreign tax credit; the effect of 1.861-8 is to tax the same earnings twice and deny an R&D deduction. Thus, this section may give rise to an unintended and undesirable incentive for U.S. companies to perform more research outside the U.S. in order to avoid such penalties. Furthermore, Congress should act to extend the prohibition to the allocation and apportionment of such expenses to export income derived through a FSC.

At the present time, the source of income from the sale of products can depend upon where the sale technically takes place. Where products are manufactured in the United States and sold abroad the income on the sale is considered effectively to arise 50 percent from within and 50 percent from without the United States. It is the industry's position that this rule should apply regardless of where the sale takes place. Thus, the rules of Internal Revenue Code sections 861-863 for determining the source of various items of

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income should be changed to provide that all income from sales of domestically-manufactured goods with an ultimate destination abroad (even if the first sale is to a U.S. export trading corporation or other governmental or unrelated private entity) should be treated as arising 50 percent from foreign sources and 50 percent from domestic sources. On such sales, the passage of title and risk of loss would not be relevant. This will relieve U.S. companies of the necessity of passing title in foreign countries, which sometimes use such a step as an occasion to impose a tax.

A small but important change that should be made in our export tax policy would be to defer the current taxation of advance payments received with respect to contracts to perform services abroad and, in certain cases, of the manufacture of unique products for sale abroad. Although taxpayers on the completed contract method of accounting who manufacture and sell goods abroad are entitled to full deferred tax treatment of advance payments received, the regular, existing tax rules are too restrictive in the case of certain foreign transactions. In less developed countries, the legal remedies available to a contractor are restricted and may even be abrogated with a change of government, but receiving a large advance payment protects the contractor against this risk. Taking such advance payments as income when received, prior to the recognition of related expenses which would reduce that income, operates as a disincentive to these transactions.

In addition to the above measures, the United States Government should undertake a current, formal study of the export incentives provided by other developed nations, to assure that with enactment of the FSC, the export incentives of the United States are comparable to those of other nations. The study should consider extending FSC benefits to cover the provision of services abroad by U.S. companies. Specifically, the Departments of Treasury and Commerce, with help from the United States Trade Representative, should report to the President within a reasonable time period — such as two years — with recommendations on an improved trade incentives policy.

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Export Finance

Among the many factors contributing to the U.S. balance of trade and payments problem, and one of primary concern to American industry, is the provision by foreign governments of an array of unfair, trade distorting export financing subsidies. These include government-supported loans, guarantees and insurance programs below market levels, insurance against exchange rate fluctuations, and a variety of other direct and indirect subsidies.

In a world where comparable products, services and technology are widely available, financing terms can be the critical factor in securing and maintaining an export market. The only institution available to U.S. exporters as a means of competing with foreign government-supported financing is the Export-Import Bank (Eximbank), a self-sustaining entity which, over the long run, does not utilize taxpayer funds.

A major advantage of U.S. exports — and Eximbank financing — is the fact that volume production drives down unit costs to customers: manufacturing programs not based on foreign sales potential could be priced out of both U.S. and foreign markets. Thus, Eximbank financing is vital to export sales, to correction of the U.S. trade deficit and to the U.S. economy in general.

In 1983, Congress amended and renewed the Bank's charter for an additional three years. While retaining both of the original twin mandates — that the Bank be both competitive and solvent — Congress strengthened and clearly gave first priority to the competitive mandate, acknowledging the Bank's "... primary function of expanding U.S. exports through fully competitive financing" (P. L. 98-181). To specifically counter and neutralize the use of mixed credit financing, and to encourage negotiations to end this particular type of export credit subsidy, Congress directed the Bank, in cooperation with the Agency for International Development (AID), to establish tied-aid credit programs. Addi-

tionally, Section 1912 of the charter was amended to broaden the standard for identifying subsidized sales in the U.S. market, and the Treasury Department inquiry into a complaint is accelerated to occur within a 60-day framework.

These and other changes, taken together, might be expected to enhance the U.S. export position. However, policies adopted by the Bank previous to the charter's renewal have erected a formidable set of stumbling blocks to obtaining export financing: the up-front fee of two percent on all loans effectively adds a half percent to the interest cost; and, in the case of aircraft loans, a series of stipulations severely restricts loans unless competition can be proven. Moreover, financing for follow-on aircraft purchases has been discouraged.

Additionally, Bank policy in two important areas is not adequately defined. First, lease/purchase financing is becoming increasingly important as an aircraft financing technique in the export market; Eximbank's down payment requirement of 15%, however, mirrors that required for purchase financing support and one of the major advantages of leasing (no down payment) is thus compromised. Additionally, there is little or no mechanism for supporting operating leases. Second, Eximbank currently has no consistent position with respect to financing used aircraft exports. Today and in the future, export sale of new aircraft will depend on the aircraft manufacturers' willingness to take trade-in aircraft on a scale that has not previously been experienced. If U.S. manufacturers are to have any success in reselling these used aircraft, Eximbank must be willing to support such sales.

While the worldwide recession was undoubtedly a significant reason for depressed export loan demand during the 1983 and 1984 fiscal years, increased demand for financing can be expected as the international economic recovery continues. But, given the limitations on the availability of financing, combined with the Bank's failure to comply with the new emphasis on its competitive mandate, U. S. exporters may increasingly choose not to bring their business to the Bank. The resulting artificial decline in demand could be erroneously interpreted as a signal that funding cuts below the proposed FY 1985 level (\$3.86 billion for direct loans, \$10 billion for guarantees) are justified.

Clearly, there is a pressing need for new international agreements on export financing — with the ultimate goal of eliminating government subsidies and achieving financing at market rate and term. For the interim, though, Eximbank must be maintained or other nations will have no incentive to move in that direction. Aggressive implementation of the competitive mandate — as intended by the 98th Congress — and direct loan and guarantee ceilings sufficient to meet any and all financing offers are necessary signals to foreign competitors of the U.S. government's intention to combat the practice of officially supported export financing. Eximbank must also act aggressively to demonstrate the U.S. resolve to discourage government-subsidized incursions into the U.S. domestic market.

The aerospace industry does not advocate that the United States emulate the kind of direct government/industry involvement and support which have come to characterize its trading competitors' efforts. Yet foreign government-owned consortia, targeted industries and the like are here to stay. Only an institutionally strong and adequately funded Eximbank will provide the United States' foreign competitors with a true incentive to adopt non-subsidized market rate and market term financing, thus neutralizing the effect of government supported financing in product selection.

Multilateral Trade Negotiations

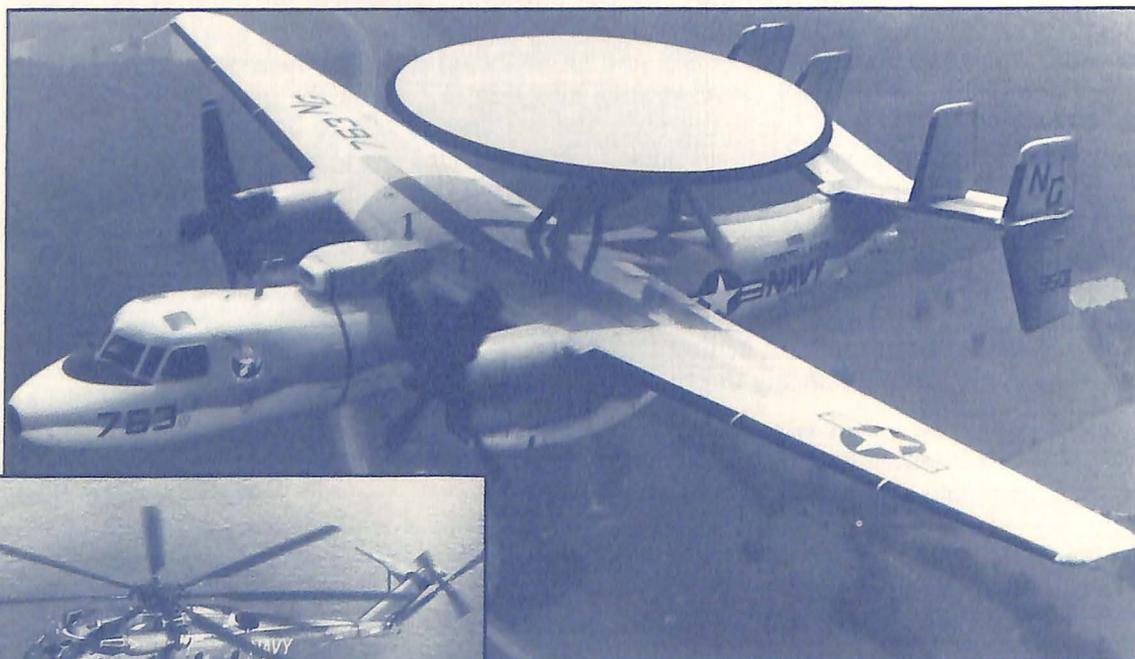
Even though the United States is facing tough competition from abroad in high technology markets, it can maintain its current position in a fair and open trade environment. If, however, foreign governments limit U.S. industry's access to markets through tariff and non-tariff barriers, further U.S. market share declines can be expected.

The great majority of countries producing civil aircraft — the United States, the European Economic Community, Japan, Canada and Sweden — are functioning within an "Agreement on Trade in Civil Aircraft," part of the Multilateral Trade Negotiations (MTN) which took effect on January 1, 1980. The Agreement sets forth policy objectives encouraging the continued worldwide development of the aeronautical industry with fair and equal opportunities, on a commercially competitive basis, for all manufacturers and operators, free from the adverse trade effects of governmental support of civil aircraft development, production and marketing. In addition, the Agreement eliminates tariffs on all civil aircraft and engines and on most parts. Duties on flight simulators, foreign civil repairs and parts for civil aircraft classified for customs purposes under numerous specific tariff headings have also been eliminated.

The Aircraft Agreement incorporates many important nontariff provisions which require that purchase decisions should be based on commercial and technical factors. Specifically, it states that governments should not apply unreasonable pressure on airlines or manufacturers to purchase from particular sources; require offset production; or attach inducements, such as landing rights or economic sanctions, to sales of civil aircraft. The U.S. government should act in a timely fashion and at a high political level to counteract foreign government marketing practices that contravene the Agreement and distort trade. The government should make clear that the U.S. will match to neutralize those practices. Such action may be necessary to counter unfair practices in the near term, but may also be the only means of leverage to achieve improvements in the government-supported Agreement on Trade in Civil Aircraft. Export financing is not addressed within the context of this GATT Aircraft Agreement. The OECD made an agreement in 1975 known as the Aircraft Standstill that sets maximum repayment terms according to the type, size and propulsion of export aircraft. The Standstill applies to large jet transports, general aviation aircraft and helicopters. The four major free world large jet aircraft producing nations — France, Germany, the United Kingdom and the United States — function under the Commonline Agreement. The Commonline is an informal understanding, confirmed by letters among governments, that they will adhere to certain minimum rates and terms.

The European Community has announced its intention to negotiate on matters related to aircraft export financing as a whole rather than as separate nations — as in the Commonline. The aerospace industry fully supports continued negotiations to reach an

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agreement that would supersede both the Standstill and the Commonline to reduce or eliminate market distorting practices. As a first step to reaching this goal, upcoming negotiations should focus on:

- Expanding the coverage of the agreements to include all types of aircraft, particularly helicopters and light aircraft;
- Seeking the participation of other producing nations not currently party to the agreements, namely: Brazil, Israel and Indonesia;
- Eliminating all forms of subsidized export finance worldwide; and
- Eliminating government support such as loans, and guarantees or insurance in the home markets of producing countries.

In addition to the improvements in the existing aircraft trade and financing agreements noted above, the United States should continue to negotiate expanded multilateral agreements which place worldwide trade in aerospace products and services on a technical and commercial basis. Specifically further efforts are needed to:

- Eliminate all government subsidies in product development, production and marketing;
- Expand coverage to all aerospace products and services including space systems and launch services; and
- Place leasing transactions for aerospace products on a commercial basis.

Export Controls

Although it recognizes the paramount concern of national security, the aerospace industry is concerned that trends in the development of controls on technology exports may undermine economic and technology leadership. The approach exemplified by the Department of Defense Directive 2040.2 on international technology transfer broadens the scope of technology control by adding "sensitive" and "significant" technologies in addition to "critical" technologies. Such measures could severely impact aerospace exports, one of the few areas of U.S. international trade that consistently shows a large surplus, and it could limit U.S. companies' opportunities to compete in multinational ventures. A more balanced approach from the standpoint of both national security and national economic interests is to limit the scope of controls on technology to a manageable, truly critical set of technologies to which access by U.S. adversaries can actually be denied.

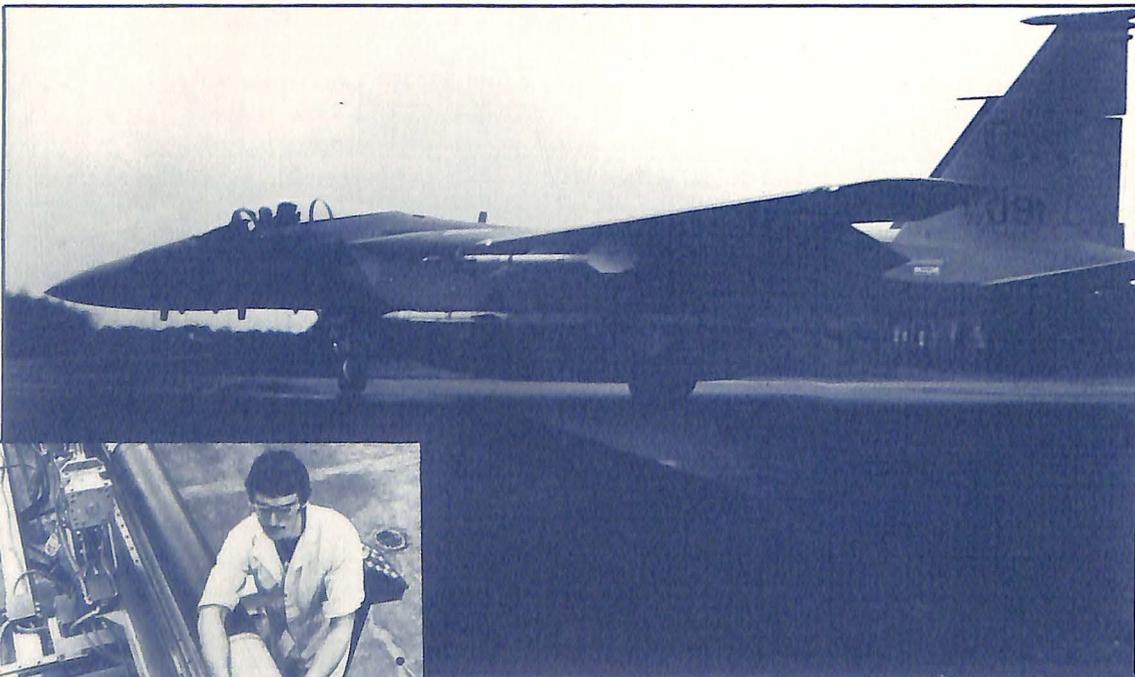
The reauthorization of the 1979 Export Administration Act — which expired in September, 1983 — offered an opportunity to significantly improve the statutory guidelines for the implementation of U.S. export controls without compromising national security. While the language of the 1979 Act had struck a reasonable balance between the use of export controls for national security, foreign policy or short supply considerations and the need to promote exports, the interpretation and implementation of those provisions have often had a negative impact on trade without any substantial gain for national security and foreign policy.

Among the problems encountered, the Militarily Critical Technologies List (MCTL) is at the heart of matters. Overly long and detailed, this should be kept to a minimum, determined to a great extent by the foreign availability of technology and goods. Further, application of export restraints must be multilateral, since unilateral controls seldom achieve the desired effect and would leave the market open to U.S. competitors. This is best accomplished through a strengthening of COCOM — the coordinating committee of all NATO countries, except Iceland and Spain, plus Japan — which has developed policies and practices for the control of goods having a strategic military value in Communist countries. The U.S. Government should take steps toward strengthening COCOM in such a way as to improve the consistency and uniformity of interpretation of the rules by all members, and to strengthen enforcement mechanisms.

The United States should acknowledge the concept of contract sanctity, prohibiting the application of unilateral foreign policy controls to existing contracts for the term of the contract. U.S. companies will not be accepted as reliable sources of supply if they are required by the government to default on their contractual obligations, or where there is a possibility of default. West/west trade with COCOM countries should be eased as well by new and simplified license procedures. Consideration must be given to a more general license category as a possible alternate to the individual validated license for many types of technology transfer among all free world countries. Such a license could be assigned to firms that demonstrate ability to control militarily critical technology, and it could cover only long-term, well-defined business relationships such as with affiliates, co-venture partners, licensees, customers and foreign national employees. It could authorize multiple exports and re-exports over an extended period where adequate transaction records exist for audit. By making use of the commercial safeguards for proprietary data and know-how which are applied by companies that operate internationally, such a license could reduce the nonessential administrative load on export control agencies and free them for higher priority export cases.

The 98th Congress adjourned without passing an amended reauthorization of the 1979 Export Administration Act, a consequence of deep-seated disagreements over the Defense Department's statutory role in reviewing export licenses to non-Communist countries and the distribution of enforcement responsibilities between the Commerce Department and the Customs Service. While the reauthorization process will have to be repeated in its entirety by the 99th Congress, the House-Senate conference committee that struggled unsuccessfully to produce a compromise did make some progress in several key areas, which address several of the aforementioned recommendations. Renewed legislative efforts to reauthorize the act should retain these agreements, which included mandatory annual updates of the Militarily Critical Technologies List, streamlining of license applications procedures, qualified contract sanctity, the establishment of a Comprehensive Operations License, the elimination of licensing for spare parts exports (where there is a previously licensed item) and the extension of relaxed COCOM export control procedures to non-COCOM countries who have established bilateral agreements with the U.S. on control and enforcement systems.

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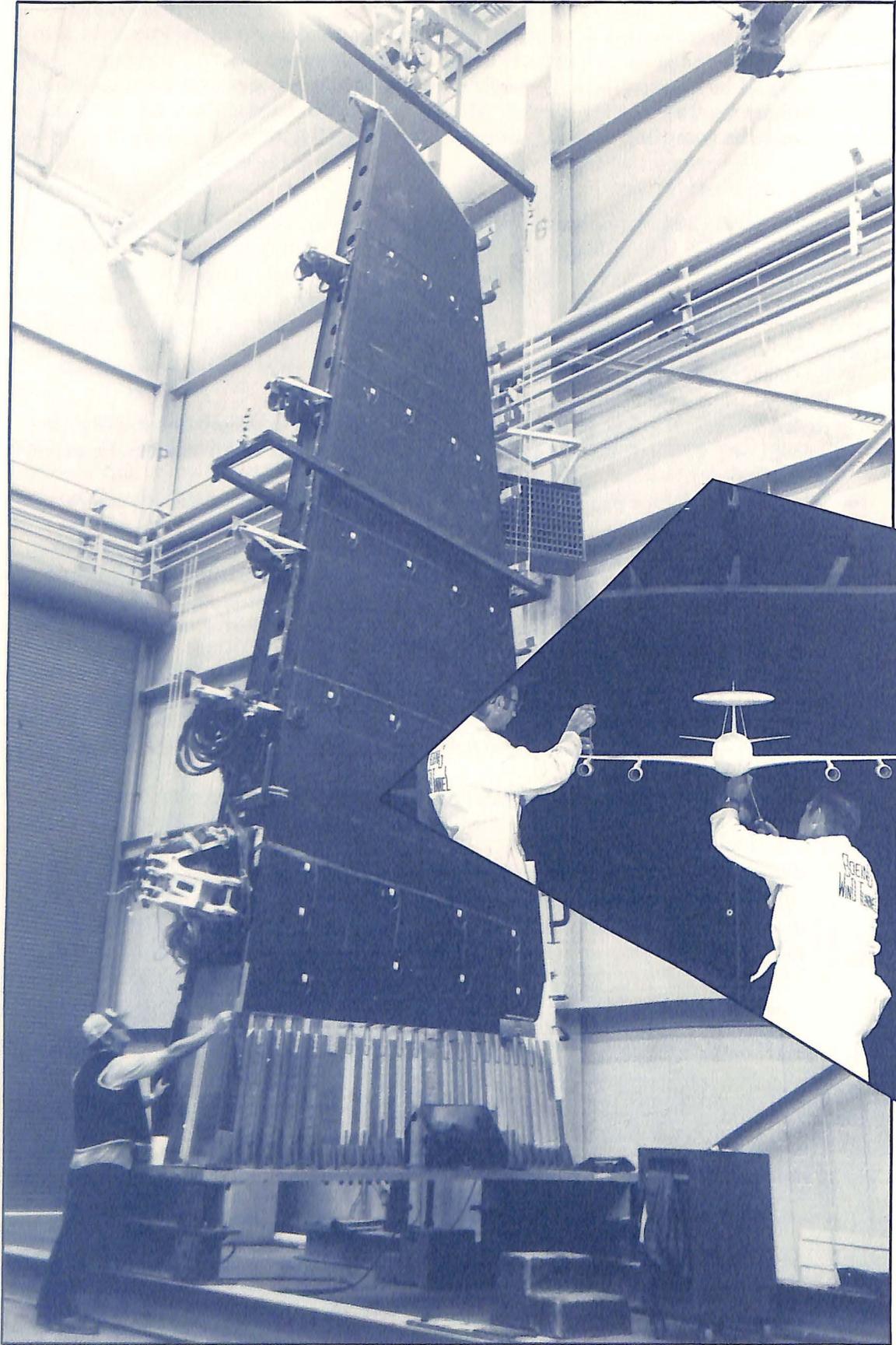


Additionally, the Commerce Department's proposed revisions in the regulations governing distribution licenses — which would stress the role of exporters' internal control programs and update the list of products ineligible for shipment under a distribution license — should be implemented. These changes represent a positive step towards more effective balancing of the need to prevent diversion of sensitive technology against the need to ensure the competitiveness of American exports in the international marketplace.

Summary

Current world circumstances underscore the fact that the economic, political and military futures of the United States are inextricably linked. Unfortunately, the United States' economic difficulties are compounded by lack of consistent, effective and aggressive export expansion policies. The situation can be corrected if government and industry work together to develop and vigorously implement such a policy. A national export policy must:

- Establish exports as a high national priority;
- Endorse trade policies that repudiate protectionism;
- Reflect a view of trade as a national investment in higher employment levels, increased tax revenues, faster GNP growth and as a means of arresting trade deficits and inflation;
- Minimize regulatory procedures and other disincentives that inhibit export expansion;
- Expand programs to offset and work toward elimination of advantages of foreign competitors;
- Provide tax and other incentives to encourage industry investments which improve productivity, encourage innovation, improve quality and lower unit cost in order to be more competitive in international markets;
- Enforce the Multilateral Trade Negotiation agreements to insure American companies are not unfairly penalized by measures employed by other nations to increase exports;
- Work for the further extension of trade rules in order to achieve a fair, competitive world trade environment;
- Strive to reduce the excessive credit competition that characterizes international trade and take firm retaliatory action against countries that provide exporters with preferential credit terms;
- Include well-articulated plans and programs to use weapons sales abroad in furtherance of U.S. foreign policy;
- Provide an assurance of policy continuity on sales of U.S. military equipment abroad as well as sales of military equipment produced through multinational programs. New instances of sales restraint, necessitated by changes in the international situation, must be addressed within a sound, long-term policy framework; and,
- Promote broader acceptance — by the Federal Government, industry, organized labor and the public — of the beneficial relationship between increased exports and a healthy economy.



A National Industrial R&D Policy: A Proposal

Introduction

For most of this century, the United States dominated world trade — its marketplace success based largely on a broad technological superiority. In the past quarter century, however, governments and manufacturers in Europe, Japan and elsewhere have invested heavily in upgrading their technological capabilities. By and large, they have been successful and, as a result, the United States has ceded top ranking in some industries. Even among high technology industries, where the U.S. trade performance has been most impressive, the technology gap has narrowed to the point where it is sometimes difficult to measure.

Despite American efforts to negotiate a more equitable trade environment, it is unrealistic to expect that we can negotiate out of existence all of the advantages our foreign competitors enjoy. Our best opportunity to revitalize the U.S. international trade performance lies in a bold, new technological thrust. We must bring to the marketplace products of such clearcut superiority that their technical excellence outweighs whatever non-technical marketing attractions the competition may offer. Then we must support the technology with a new, positive trade thrust.

The United States has not lost its technological *capability*, only its momentum. In order to regain momentum, the administration, Congress and the American people must recognize that preeminence in science and technology is of paramount importance to the U.S. economy, the nation's security and its standard of living.

Government must approach the fostering of industrial research and development with a comprehensive policy that accords higher priority to R&D; encourages more effective cooperation among government, industry and the academic community; and stimulates industrial R&D aimed at creation of superior products for the marketplace. From the standpoint of near-term national competitiveness, the policy should be broad enough to include "implementing technology" — such efforts as applied research, exploratory development, advanced development and manufacturing technology, which serve as the bridge between basic research and new products.

In aerospace, where U.S. industry still maintains a technological edge, there is opportunity for revitalizing American competitiveness through emphasis on technologies with the greatest payoff potential. An Aerospace Industries Association study, *Aerospace Technology for the 1990s*, details benefits that might be expected from a focused technology thrust. In some cases, gains in cost reduction could be as much as 30-50 percent with similar increases in performance parameters. Such gains mean immense benefits to U.S. aerospace product competitiveness, but they will require an investment in essential technology by both government and industry.

Federal R&D expenditures for basic R&D in aerospace and other areas is moving upward as a percent of GNP, but after more than a decade of neglect. To redress this, a national industrial R&D policy should advocate really significant increases in government support of R&D over the long-term. An industrial R&D policy should also advocate incentives that will encourage industry to make the large investments demanded by a focused R&D thrust.

Legislative and regulatory actions that would enhance the industrial R&D process are detailed on the following pages.

R&D Tax Incentives

Increased U.S. industry expenditures for R&D will help to strengthen the technological position of the U.S. in international competition. This is particularly true among high technology industries, such as aerospace, where R&D expenditures must be increased and sustained at high levels if the United States is to cope successfully with the competitive challenge it faces.

In the Economic Recovery Tax Act of 1981, the administration and the Congress recognized the need for additional research by providing a 25 percent credit for certain research costs. This credit, however, has proved to be inequitable in the aerospace industry. First of all, the credit operates as an incentive only for increased research expenditures, above a company's historic level of outlay; it provides no incentive for companies to maintain continued, sustained research programs. Economics is a critical factor in undertaking every research program, whether the program represents a higher level of effort or continuation of an existing effort. The arbitrary denial of the credit based upon continuing research activity will mean that many meritorious projects will not be undertaken, and what would otherwise lead to an increase in total U.S. research activity will not occur.

Most research programs in the aerospace industry are of a long-term nature, spanning three years or longer. Allowing a credit only for "incremental" costs discriminates against long-term research programs. Once a new long-term program is undertaken, assuming other programs remain constant, the credit will apply only to the early costs. The full costs of new, short-term programs will qualify.

The incremental feature of the credit works to the detriment of the typical aerospace company whose expenditures, though high, may fall below an earlier level due to cyclical peaks and valleys in R&D outlays. The credit can have a distorting effect by providing an incentive for more work to be performed at the beginning stages of a new program where normally such work would be performed at a later stage. There may be an incentive to defer a project until a following year. There is an element of unfairness here in that companies which have maintained their research activities over the years are penalized vis-a-vis those companies which have not.

AIA therefore believes that the current provisions of the statute should be modified to provide a meaningful level of credit, which could be somewhat less than the full 25 percent, for continued, sustained research activity. Furthermore, any tax incentive for R&D expenditures should be provided on a long-term, if not permanent, basis. The 25 percent R&D credit, for example, is scheduled to terminate at the end of 1985. Even with the option to extend a credit beyond its "sunset" date, the uncertainty entailed is disruptive from a business planning standpoint.

Another problem with the existing credit is that some expenditures necessary for a successful research program are excluded, for example, certain IR&D and computer software development. All research and experimentation expenditures should qualify for the credit or else unfair application of incentives among programs will result.

For R&D to have real value, it must be translated into new and improved products. Frequently, the person performing the research is not the same person who undertakes its commercial application. Under present law, purchased technology is treated as an asset and is subject to a relatively long period of amortization. To encourage accelerated translation of R&D into successful products by companies best able to do so, the cost of acquired research, including unpatented know-how, should be subject to amortization over 60 months.

The aerospace industry realizes that in the short run, effective incentives will involve an obvious reduction in revenue to the U.S. Treasury. In the long run, however, an investment in such incentives will pay dividends in the form of increased tax revenues as new and improved products enhance the competitive position of the United States in the world market.

Independent Research and Development

In any policy intended to stimulate American technological advancement, one of the most important areas for consideration is Independent Research and Development (IR&D), a government term for that part of a company's total R&D program that is company-initiated, company-directed and company-funded to improve the company's competitive posture. The cost of IR&D is allocated to overhead and is generally sought to be recovered from sales of all products and services of the company, both government and commercial.

Much of industry's IR&D offers exceptional benefits to the Department of Defense. It has been pointed out in congressional testimony that almost none of the major new technologies of this century was conceived as a result of a military requirement; the conception and initial exploration of most major defense technology advances were carried out by scientists and engineers in industry and the academic community, working in an environment that allowed and stimulated novel thought, enabling them to make independent decisions regarding new R&D thrusts. Through IR&D a pool of industrial talent applies its imagination and expertise to future defense needs; additionally, DoD benefits from stronger competition among defense contractors.

One might think that IR&D, clearly of great benefit to the nation, would be universally lauded. Unfortunately, the process is little understood, and this lack of understanding has resulted in persistent criticism and the lack of strong support necessary to maintain healthy IR&D programs. DoD has reacted to criticism by imposing heavy administrative requirements and stringent negotiating postures on its contractors.

Under existing government procedures, the process works like this: larger contractors are required to negotiate "advance agreements" in which the amount of IR&D costs otherwise allowable under domestic defense contracts are limited; historically, an average of only 70 to 80 percent of costs have turned out to be allowable for inclusion in overhead under domestic DoD contracts. Due to business mix, the industry average for recovery under DoD contracts is about 40 percent of total IR&D costs. DoD's leverage comes from the fact that if a company does not accept the ceiling offered by DoD, then — by law and regulation — the amount which would otherwise have been established as a ceiling is reduced by an additional 25 percent, a penalty on the contractor for failing to agree with the government's proposed ceiling. Such forced cost sharing and heavy administrative involvement can only work to reduce potential benefits in both national defense and U.S. competitiveness. Because of its value to national interests, IR&D should be stimulated rather than restricted.

The national industrial R&D policy should strongly affirm that IR&D is an absolutely essential foundation for expanding both a company's and the nation's technology base, and should foster bolder, long-range IR&D progress. IR&D costs should be fully allocable as an element of recognized overhead costs in the pricing of government contracts. A national R&D policy should favor continuance of IR&D with special effort to assure the "independent" factor; it should eliminate unnecessary administrative burdens and paperwork that give rise to wasteful costs and divert funds from technical effort.

In the aerospace industry's view, DoD should increase negotiated IR&D/B&P (Bid and Proposal) ceilings and hence recovery from the current 80 percent level to 100 percent of reasonable costs incurred. In short, the aerospace industry supports the summary recommendation of the Grace Commission, which states: "Independent Research and Development costs should be recoverable by defense contractors in the same manner as other bona fide overhead expenses."

Collaboration

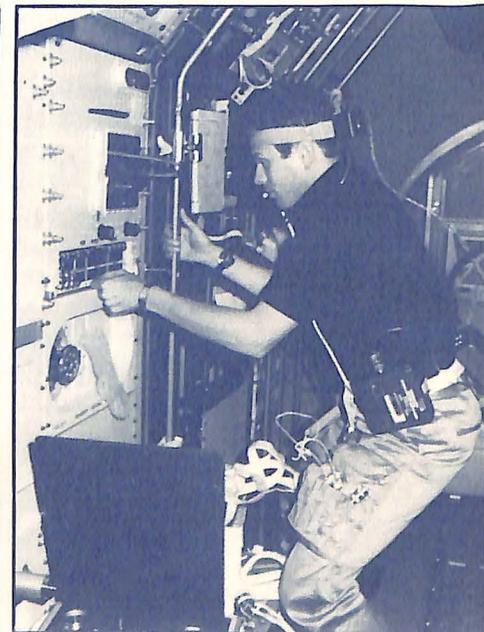
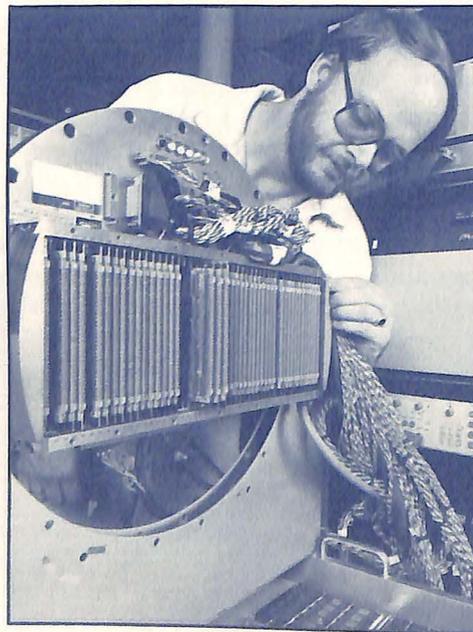
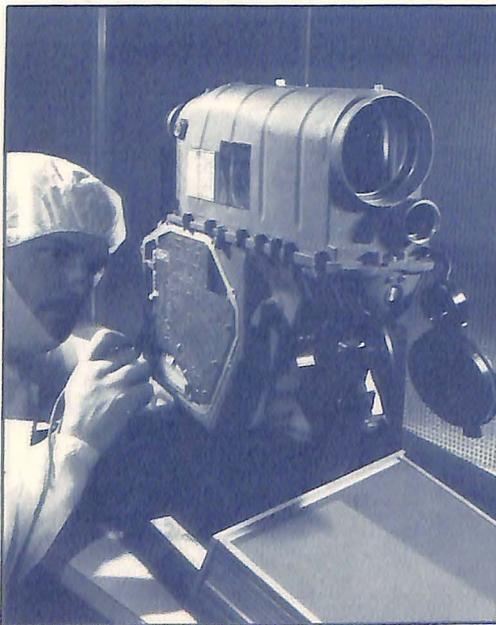
A major reason for the improved competitiveness of foreign producers is the consortium, an amalgam of manufacturers banded together in a common development, production and marketing effort. Such arrangements are particularly important in high risk, high cost, high technology developments — commercial aircraft and engines, for example. The consortium approach permits companies — or countries — to share the risk, to pool their capital, technology and skilled personnel, and to broaden the market for the end product.

The laws under which foreign competitors operate do not restrict consortium programs. Japanese antitrust law did not prohibit firms from conducting collaborative R&D in targeted areas such as computers, robots, and aerospace. French antitrust law did not bar joint R&D projects in such areas as aerospace, telecommunications, microelectronics, energy, and conservation equipment. Similarly, West German firms have not been prevented from conducting joint R&D.

In recent years, due to changes in the world marketplace and dramatically rising development costs, U.S. aerospace manufacturers have increasingly entered into cooperative relationships with foreign companies in order to gain market share and reduce financial risk. Some types of developments could benefit from collaboration among two or more U.S. manufacturers, possibly with some foreign participation as well. This would provide the same basic advantages as a U.S. foreign partnership but would offer some bonuses: more U.S. jobs would be created; companies looking for collaborative arrangements would have a wider and possibly more beneficial selection of partners; and duplicative research among American companies, draining limited capital and personnel resources, would be reduced.

The Reagan Administration and the 98th Congress recognized that the inhibiting effects of antitrust restraints on U.S. companies had to be addressed, and the result was the enactment of the National Cooperative Research Act of 1984. This new law has three important thrusts: the courts are required to apply the "rule of reason" in making a determination as to whether a challenged joint R&D venture violates antitrust statutes, and to consider the venture's actual effects on competition; companies entering into such joint

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R&D ventures, who disclose in advance to the government the participants and objectives of the venture, will be liable for actual damages only in the event of a finding of antitrust violation; and, the courts are granted the discretion to require a plaintiff to pay defendants' attorneys' fees if the plaintiff's claim or the conduct of the lawsuit is deemed to be "frivolous, unreasonable or without foundation."

While the enacted law is limited to the issue of R&D joint ventures, the Reagan Administration's original proposal also addressed the patent system. Proposed revisions for this purpose: prohibit supplying components of an invention in the United States for final assembly abroad; allow research team members to exchange unpublished data without endangering patent rights; simplify requirements for naming joint investors; and, authorize arbitration of patent interferences.

AIA supports these changes, believing it that it is in the national interest to remove unnecessary barriers, in order to permit high technology companies to be better able to compete in world markets through joint ventures and licensing projects.

Patent Policy

Patent rights are a stimulus to R&D in two principal ways: first, they encourage investment by providing for a limited time a protected market for inventions resulting from the R&D, and second, a patent stimulates competitive R&D by creating a necessity to "invent around" it, finding a different approach to product development than the one already patented, or improving upon the patented invention. Contractor retention of patent rights made in the course of government-sponsored R&D is a stimulus for the follow-on R&D essential to bringing the invention to market.

The U.S. Government operates under a variety of patent policies established by statute and policy promulgations and varying interpretations of the statutes and policies in implementing regulations. A move toward uniformity was taken by the 96th Congress in Public Law 96-517, under which small businesses, universities and domestic non-profit organizations may retain title to inventions made in the performance of an R&D government contract, grant or other funding arrangement. The administration moved in a direction long advocated by industry, with a policy statement extending the provisions of



PL 96-517 to all contractors by government agencies not statutorily precluded from doing so. One more step remains in the evolution of patent policy for allocating rights to inventions made under government-funded R&D: there is need for superseding legislation authorizing *all* federal agencies to allow contractors to retain title to inventions made in the course of government-funded R&D.

Technical Data

In many instances, commercialization of a patented invention depends largely upon — or is facilitated immeasurably by — the availability of the associated technical data. Although much technology developed under a government contract may not be patentable, nevertheless it has potential commercial value. Additionally, in the performance of government R&D, appropriate recognition and protection of a contractor's proprietary data is essential to preclude the loss of valuable property rights and to provide incentives for contractors to use such data in performing government contracts.

AIA has urged that the recognition and protection of proprietary data should be incorporated into a policy under which the contractor has title to technical data first generated under a federally-funded contract, the government's interest being protected by a license in the government for the use of the data for defined governmental purposes together with the right to authorize others to use the data for the same purposes. Such a policy should preclude the government from using its economic leverage to award contracts to expropriate a contractor's valuable data rights, by placing time limits on the government's recognition of proprietary markings or unilaterally setting a price on proprietary data.

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Congress and the administration have moved forward a uniform technical data policy for use in procurement in statutes requiring uniform regulations allocating the rights in data developed exclusively with federal funds, exclusively at private expense and with mixed federal funds and private expense. The regulations are now under development.

Technical Manpower

If the aerospace industry is to expand its commercial export-related R&D, and simultaneously conduct the R&D necessary to the administration's planned improvement of the national defense posture, it is of prime importance that greater attention be focused on the U.S. research and technology base and on the availability, adequacy and utilization of scientific and engineering manpower. Specifically, there is need to strengthen the entire U.S. educational system — from secondary schools upward — as well as the interface between the aerospace industry and the American university system, which performs most of the nation's basic research and provides its engineers.

Various studies indicate substantial demand for scientists and engineers in the 1980s, particularly in aerospace. However, it seems clear that secondary schools generally are not offering adequate technical education and that the universities will not be able to graduate technical manpower in the numbers required; the number of enrollees electing technical majors, and staying with them, is limited. There is a related question as to whether technical graduates will have an up-to-date education, because schools are finding it increasingly difficult to obtain qualified teachers and modern training equipment. Additionally, there is a need — from industry's standpoint — for greater university focus on the practical problems associated with applied R&D.

Improved industry/university interface would benefit both partners in the relationship. For the universities, it would provide an alternative to uncertain federal funding and the problems frequently attendant upon government funding; it could broaden the experience of university personnel, compensate for loss of university talent to industry, and significantly improve university access to modern equipment. Additionally, successful

cooperative projects with industry would enhance a university's prestige and further its ability to attract quality faculty and students.

Improved interface with the academic community would allow industry to take greater advantage of university research talent, identify promising students and promote more industry-oriented research. Effective university/industry cooperation in basic research could provide cost savings for industry. In addition to industry-funded, university-conducted contractual effort, there are a number of different support mechanisms — from research consortia to grants to loans of equipment — that might profitably be expanded. However, supporting these programs is expensive. An AIA survey of 33 member companies showed it was \$118 million in 1981.

In the interest of increasing the output and quality of graduates in the technical disciplines, the aerospace industry should develop a strategy for improving the industry/university relationship and identifying the ways in which industry can best support universities for maximum payback to industry. The government should encourage greater industry/university collaboration by providing incentives that would make the required additional outlays more palatable to industry. One measure that would be helpful is the inclusion of the total cost of all university research grants and industry-funded contract work when calculating the 25 percent tax credit. Another possible incentive measure is permitting allocation of industry IR&D funding for universities as a fully allowable cost.

Summary

The United States is facing an international trade challenge of unprecedented dimension. The best response to the challenge lies in a resurgent technological thrust designed to reestablish U.S. product superiority in the international marketplace. That goal is capable of accomplishment, but a first requisite is a comprehensive government policy on R&D that:

- Accords a higher national priority to R&D;
- Encourages more effective cooperation among government, industry and the academic community;
- Maintains the strengths of competitive, decentralized decision-making by industry;
- Recognizes the long-term requirements for many R&D activities and encourages long-range R&D planning and stability of R&D funding.

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