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U.S. GOVERNMENT SUPPORT TO U.S. COMMERCIAL AIRCRAFT INDUSTRY DURING THE PAST 15 YEARS EXCEEDS $33 BILLION

The United States commercial aircraft industry has received substantial US government support over the past fifteen years. This is the main conclusion drawn in a special report prepared for the EC Commission by US law firm Arnold & Porter. The in-depth study provides conclusive evidence that the US government support to the US commercial aircraft industry during the period 1976-1990 was between $18 billion and $22 billion (actual expenditure) and between $33.5 billion and $41.5 billion (including cumulative interest).

These figures constitute a very conservative estimate of the total amount of support from the US government to the US industry in the commercial aircraft sector, owing to the fact that most of the support is indirect and as such not easy to identify. This distinct lack of transparency is deemed to be an inevitable feature of the intimate relationship between the US government and the US commercial aircraft industry. Government and industry operate in such a close, cooperative fashion that their business ties are hard to unravel.
US government agencies have played a vital part in enhancing the strong competitive position of the US commercial aircraft industry on the world market. Since military and commercial aeronautics technology are so closely related to one another, the commercial branch has been able to derive substantial crossover commercial benefits through the continual transfer of military technology for civil purposes. From the Boeing 707 through to the supersonic and hypersonic planes of the future, US agencies have supported each technological breakthrough.

Between 1976 and 1990, the report concludes that US commercial aircraft manufacturers have received the following government support:

$12.4 billion to $20.2 billion from US Department of Defence (DOD) aeronautics R&D;

$1 billion to $1.25 billion from independent R&D programs (IR&D) reimbursed by the US DOD:

$17 billion from National Aeronautics and Space Administration (NASA) programs.

The amounts given above only concern the support which can be attributed to development and production in the commercial aircraft sector.

The report also identifies a considerable number of loopholes in DOD and NASA recoupment provisions. Indeed, recoupment by the DOD is estimated at less than 0.01 percent of the support indicated above.

Furthermore, the US tax system has in the course of the past fifteen years provided a whole range of possibilities by means of which aircraft exporting companies have been allowed to enjoy substantial tax deferrals and exemptions. Total tax deferrals and exemptions granted to the US commercial aircraft industry have exceeded $3.5 billion since 1976.

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In past negotiations, the focus has been on direct supports provided by European governments. The results of this study underscore the Commission's conviction that a fair and balanced agreement on international trade in civil aircraft must incorporate substantive disciplines on indirect support.

SUMMARY OF THE REPORT

The United States government provides massive, systematic support to the US commercial aircraft industry through three principal means:

1. US Department of Defense R&D

The strategic importance of aeronautics has led the DOD to devote enormous resources to military aeronautics R&D in the post-World War II period. Given that the major companies in the US commercial aircraft industry are deeply involved in military aeronautics development and production and that military and commercial aeronautics technology often overlap, these companies derive very substantial crossover commercial benefits from their participation in military R&D. For example, examination of each of the "quantum leaps" achieved in commercial aeronautics technology - the Boeing 707, the wide-body jets and now the development of a supersonic civil transport plane - reveals that substantial US government involvement in the period prior to each breakthrough provided support essential to achieving the commercial innovation.

In the past fifteen years, the DOD has spent approximately $50 billion on aeronautics R&D grants, with at least $6.34 billion of those funds going to the two principal US producers of large commercial aircraft, Boeing and McDonnell Douglas, for aircraft-related R&D. Further, based on analyses of the applicability of military aeronautics technology to commercial uses, we estimate that the $50 billion of military aeronautics R&D constituted a benefit of between $5.9 billion and $9.7 billion to the commercial aircraft industry, taken as a whole. Expressed in current dollars, taking account of opportunity costs and compound interest accumulation, this benefit range is $12.41 billion to $20.18 billion. [1]

Although the DOD attempts to recoup some of the commercial benefits private companies derive from participation in military R&D, between 1976 and 1990 the DOD recouped only about $170 million from private companies engaged in aeronautics R&D, a tiny percentage of the total benefits these companies actually received.

In addition to the direct DOD R&D grants to private companies, the US government also reimburses private companies for R&D projects they undertake on their own that may have military relevance. The commercial utility of such independent research and development efforts (IR&D) is even higher than in government-initiated R&D, because the companies choose the research areas themselves, and they are very conscious of the value they receive from dual use technologies. Since 1976, US companies have received approximately $5 billion of reimbursements from the government for aeronautics IR&D, constituting a probable benefit to the commercial aircraft industry of between $1 billion and $1.25 billion.

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[1] For the purposes of this opportunity cost/compound interest calculation we assume that the benefits were distributed over the relevant years in proportions roughly similar to the overall distribution of DOD aeronautics R&D. For interest rates, we have used US 30-year Treasury Bond rates and have compounded the interest annually up to 1991. This calculation should be considered a rough estimate made of illustrative purposes only.

2. National Aeronautics and Space Agency R&D

NASA R&D provides a second major form of US government support for the US commercial aircraft industry. One of NASA's principal goals is to promote US technological superiority in aeronautics. To that end, NASA sponsors large amounts of civil aeronautics R&D, as well as some military aeronautics R&D. In the past fifteen years, NASA devoted $8.9 billion to civil and military aeronautics R&D. This R&D has consisted of large-scale projects, such as the Aircraft Energy Efficient Program and work developing the supercritical wing, as well as numerous smaller-scale projects aimed at encouraging specific technological developments in aeronautics.

Given that one of NASA's primary objectives is to support technological developments in US commercial aeronautics and that NASA's military and civilian R&D goals are closely interrelated, it can be reasonably estimated that 90 percent of NASA's R&D expenditures constitute a benefit to the US commercial aircraft industry. Thus, the $8.9 billion of NASA R&D in the past fifteen years, translates into a benefit of $8 billion to the US commercial aircraft industry. Expressed in current dollar terms, the benefit of NASA R&D is $16.96 billion.

3. US Tax System

The US tax system also benefits the US commercial aircraft industry. The "completed contract method" for determining when contract income is subject to tax has allowed US aircraft manufacturers to reduce taxes by deferring substantial amounts of income. Use of domestic international sales corporations (DISCs) and foreign sales corporations (FSCs) also has permitted substantial deferrals. From 1976 to 1990, these various deferrals and exemptions provided benefits of approximately $1.7 billion to Boeing and $1.4 billion to McDonnell Douglas.

Taken together, the three major quantifiable areas of support to the US commercial aircraft industry provided an estimated $18 billion to $22.3 billion of benefits from 1976 to 1990. The total benefits to the industry for US government support likely exceed these amounts, however, because the US government provides several other important forms of support that are exceedingly difficult to quantify. US aircraft manufacturers' use of government test facilities at reduced rates and the special purchase in 1982 of McDonnell Douglas KC-10s by the US government are just two example of such other forms of support.

In sum, while the lack of transparency in the multifaceted interactions between the US government and the US commercial aircraft industry makes any exact quantification of overall industry support impossible, it is clear that US government support of the US commercial aircraft industry has been a pervasive element of US government policy over the last two decades. Objective observers agree that US government support has played a critical role in assuring the key technological advances made by the US industry and thus, in assuring the competitive position the US commercial aircraft industry enjoys today in markets throughout the world.

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