

TABLE 1. AVIATION EXCISE TAX RATES: 1970-1990  
(By fiscal year)

	Passenger Ticket Tax (Percent)	Inter- national Departure Tax (Dollars)	Freight Waybill Tax (Percent)	Aviation Gasoline Tax (Cents per gallon)	Aviation Jet Fuel Tax (Cents per gallon)	Aviation Tires Tax (Cents per pound)	Aviation Tubes Tax (Cents per pound)	Aircraft Regis- tration Tax (Dollars)
1970	5	a	a	2	a	5	10	a
1971-1980	8	3	5	7	7	5	10	25 + (.02/lb. or .03/lb) <sup>b</sup>
1981-1982	5	c	c	4	c	4.875	10	d
1983-1989	8	3	5	12	14	e	e	0
1990 <sup>f</sup>	4	3	2.5	6	7	0	0	0

SOURCE: Congressional Budget Office, from legislation.

- a. No such tax existed.
- b. The tax is \$25.00 per aircraft, plus 2 cents per pound for each pound over 2,500 pounds for non-turbine-powered aircraft or 3.5 cents per pound for turbine-powered aircraft.
- c. Tax lapsed.
- d. Tax lapsed and was not renewed.
- e. Tax was eliminated as it applied to aircraft, in 1984.
- f. Rates projected to take effect on January 1, 1990.

capital programs of the aviation system. The Congress felt that this was contrary to the intent of the 1970 law, and that the Administration was proposing to use aviation taxes not to build capacity in the airport and airway systems but to drain the funds away to cover current operations. As a result, an amendment to the Airport and Airway Development Act of 1970 was passed in November 1971 (Public Law 92-174), eliminating the provision permitting the use of the trust fund to finance FAA operations.<sup>2</sup>

The ramifications of the 1971 amendment were far reaching. First, it significantly changed the nature of the trust fund. While the Congress had intended the new excise taxes to finance capital expansion of the airport and airway systems, it had also intended that private-sector users would pay for the federal services provided them to

2. *Airport and Airway Development Act--Amendment*, H. Rept. 459, 92:1 (1971).

the extent funds were available after capacity needs had been met. In effect, the trust fund was to have been a capital account except when excess funds were available; in those instances, the trust fund could be more of a user-pay system. This amendment broke the link between the excise tax payments and the coverage, if only partial, of the costs of all aviation services, and established the trust fund as a capital-only account. Second, it was the first indication that the new system of aviation funding would not fulfill its intended goal of freeing the aviation budget from the general budgetary constraints of the government.

### The Airport and Airway Development Act Amendments of 1976

The Airport and Airway Development Act Amendments of 1976 (Public Law 94-353) reauthorized trust fund spending for aviation programs for the 1976-1980 period.<sup>3</sup> In this reauthorization, the Congress noted that the expanded airport and airway programs had served their purposes well, but that continued growth in air traffic and concerns about congestion and delays required reauthorization and continued expansion of aviation programs. This legislation made various changes to the airport grant program and nearly doubled its annual authorizations. Minimum authorizations for airway facilities remained constant at \$250 million a year through 1980.

Of particular importance in this legislation was authorization to finance, once again, some of the operations and maintenance expense of the airway system from the trust fund. While leery of a repetition of what it perceived as misuse of the trust fund in 1971, the Congress acknowledged that aviation excise taxes were intended to be user fees that would not only fund capital expansion of the aviation system, but would also operate and maintain it.<sup>4</sup> Therefore, trust fund financing for the maintenance of air navigation facilities was authorized but a cap was placed on appropriations for this purpose, starting at \$250 million in 1977 and rising to \$325 million in 1980. In addition, a penalty clause was enacted that reduced these maximum levels in proportion to any shortfall of airport grants below the authorized mini-

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3. The Airport and Airway Revenue Act of 1970 authorized the aviation excise taxes through fiscal year 1980.

4. *Airport and Airway Development Act Amendments of 1976*, H. Rept. 594, 94:1 (1975).

mun amounts. This act, therefore, moved the trust fund away from a purely capital account to a hybrid system of partial user financing of total system costs.

At the end of 1980, the new and increased taxes imposed by the Airport and Airway Development Act of 1970 expired, as did the authorization to transfer the revenue from these taxes to the trust fund.<sup>5</sup> Spending from the trust fund continued, however, and was charged against the accumulated surplus of the past six years.

### The Airport and Airway Improvement Act of 1982

The Airport and Airway Improvement Act of 1982 (Title V of Public Law 97-248) reaffirmed the need for an expanded aviation capital program, renewed and increased aviation user fees, and made changes in trust fund spending provisions. The law took particular note of the need to modernize the air traffic control system, and of the fact that authorizations for airway facilities had not changed in a decade. The five years of authorizations in the act for facilities and equipment constituted the initial funding for the FAA's long-term National Airspace System Plan (NAS Plan), a comprehensive program designed to modernize the airway system.

The 8 percent domestic passenger ticket tax, the \$3 international departure tax, and the 5 percent waybill tax were reimposed at their old rates. The aircraft registration tax was not renewed, however, and while deposit of the tire and tube taxes into the Airport and Airway Trust Fund, instead of the Highway Trust Fund, was reinstated, these taxes were eliminated as they applied to aircraft in 1984 (Public Law 97-474).

The major change in excise taxes was to increase the taxes on gasoline and jet fuel paid by general aviation, which encompasses private, noncommercial users of the aviation system, including business, corporate, and pleasure fliers. Since general aviation would no longer be paying the registration tax, and since general aviation's share of

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5. Aviation excise taxes existing before the 1970 act did not expire (see Table 1). Proceeds from the ticket tax were deposited in the general fund and proceeds from the gasoline, tire, and tube taxes were deposited in the Highway Trust Fund during 1981 and 1982.

total annual aviation taxes was proportionately less than its use of the aviation system, these taxes were raised substantially: to 12 cents a gallon for gasoline and 14 cents a gallon on other fuels.<sup>6</sup> All of the aviation taxes were reauthorized through the end of calendar year 1987.

Trust fund financing for aviation programs was reauthorized through fiscal year 1987. These programs consisted of the airport grants-in-aid program; expenditures on the national airway system under the NAS Plan for facilities and equipment, and for research, engineering, and development; transfers to the National Oceanic and Atmospheric Administration (NOAA) to fund the aviation weather services program; and funding to cover a portion of FAA operating costs.

This act continued the intermediate approach of a partial user-pay system adopted in the 1976 act by continuing the restrictions on the amount of operations spending that could be financed from the trust fund. While cap and penalty provisions were both retained, the formula governing each was changed. The new cap was set at a multiple of the actual amount made available for obligation each year for airport grants. The penalty clause reduced this cap amount by twice the difference between authorizations for facilities and equipment spending and the actual appropriations for the program. The intent was, once again, to permit spending from the trust fund for operations only after the authorizations for capital spending had been funded, and to prevent unappropriated funds from being used for operations spending.

### The Airport and Airway Safety and Capacity Expansion Act of 1987

The Airport and Airway Safety and Capacity Expansion Act of 1987 (Public Law 100-223) reauthorized spending for aviation programs and extended the excise taxes to finance them. Air travel had surged in the decade since airline deregulation, continuing and increasing pressure on the capacity in the system. At the same time, the modernization and expansion of the airway system foreseen in the 1982 act had lagged, primarily because of technical difficulties in the programs. In the debate over the 1987 act, congestion in the aviation sys-

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6. *Airport and Airway System Development Act of 1982*, S. Rept. 494, 97:2 (1982).

tem and delays in capital expansion were also attributed to constraints during the last few years on trust fund spending imposed for deficit reduction purposes. These lags in capital spending, as well as the restrictions on spending from the trust fund for FAA operations, had resulted in continued growth in the uncommitted balance in the trust fund despite increasing demands for higher spending.

In the 1987 act, therefore, both airport and airway programs received substantial increases in their authorization levels, while aviation taxes were extended at their current rates. The intent was to reduce slowly the accumulated surplus in the trust fund by increasing capital spending without increasing tax rates. In addition, the cap and penalty clauses were once again changed. The new cap on annual operations appropriations from the trust fund is set at 50 percent of the total amounts made available in each year for airport grants-in-aid, facilities and equipment, and research, engineering, and development. This annual maximum amount is reduced by twice the amount by which the actual amounts made available for these programs fall short of levels specified in the law.

The cap and penalty provisions in the 1976, 1982, and 1987 acts were intended to permit the trust fund to be more than a purely capital account and to provide for partial user support for the operating costs of the aviation system. At the same time, they were also designed to remove any incentive to reduce capital spending on aviation in order to finance more operations spending from aviation tax revenue. While these provisions have prevented greater financing of FAA operations from the trust fund and thus helped to increase the uncommitted balance in the trust fund and reduce the degree to which users pay for the system, they have not resulted in the full appropriation of authorized capital spending levels. Primarily because of program constraints, these provisions have merely altered the accounting for aviation spending, forcing the general fund to finance more of these expenditures.

In addition, there still remains an incentive to limit capital spending for aviation programs. Given the annual level of excise tax revenue from aviation, each dollar of aviation spending greater than these tax revenues must be funded by general revenues. Therefore, regardless of the actual accounting for aviation spending, each dollar

reduction in spending on aviation either reduces the need for the general fund to finance aviation spending, or produces a trust fund surplus from which the Treasury can borrow to cover nonaviation expenditures.

In recognition of this fact, the Congress created a new provision in the 1987 act. This provision triggers reductions in the aviation excise tax rates if aviation capital spending falls below certain levels during 1988 and 1989. If the sum of the obligation limits in fiscal years 1988 and 1989 for airport grants, and the appropriations for fiscal years 1988 and 1989 for facilities and equipment, and for research, engineering, and development, is less than 85 percent of the total amounts authorized for these programs, then in calendar year 1990 the domestic ticket tax, the waybill tax, and the general aviation fuel tax rates will be reduced by 50 percent, while the international departure tax will remain unchanged. With this provision, restraints on spending for aviation capital programs become counterproductive since they would lose more revenue than they would save in outlays.

## FINANCIAL HISTORY OF THE TRUST FUND

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Table 2 shows trust fund revenue and outlays by source, and the resulting balances since 1971. Except for the 1971-1973 and the 1981-1982 periods, these sources and uses of funds have changed very little. The levels of spending and revenue, however, and the trust fund balance and surplus, have varied more significantly.

In the 1971-1973 period, revenue and outlays were affected by several provisions of the Airport and Airway Revenue Act of 1970. On the income side, the unexpended balances from prior-year appropriations for aviation programs were transferred to the fund in 1971 and 1972. In addition, revenues from the general fund were transferred to the trust fund in 1972 and 1973 under provisions of the act that authorized transfers to cover any shortfall between tax revenue and expenditures from the fund and to maintain required reserves.<sup>7</sup> Last, in-

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7. These reserves were required by a provision of P.L. 92-174 stipulating that funds remain available in the trust fund in sufficient amounts to cover the minimum authorizations for airport grants and for airway capital expenditures.

TABLE 2. AIRPORT AND AIRWAY TRUST FUND  
(By fiscal year, in millions of dollars)

	1971	1972	1973	1974	1975	1976	TQ	1977
<b>Trust Fund Receipts</b>								
Passenger Ticket Tax	453	518	609	652	779	777	225	1,007
Waybill Tax	27	27	36	43	54	42	14	51
Fuel Tax	36	38	47	67	54	52	14	56
International Departure Tax	26	44	47	60	55	47	16	57
Aircraft Use Tax	19	20	18	21	20	21	8	22
Aircraft Tires and Tubes Tax	3	3	2	1	1	1	0	1
Refunds	-2	-1	-2	-2	-1	-2	-1	-2
Transfers from General Fund	621	902	73					
<b>Total, Receipts<sup>a</sup></b>	<b>1,184</b>	<b>1,551</b>	<b>832</b>	<b>840</b>	<b>962</b>	<b>938</b>	<b>277</b>	<b>1,191</b>
<b>Trust Fund Outlays</b>								
Airport Grants-in-Aid	61	105	232	243	292	269	26	335
Facilities and Equipment	122	224	322	207	223	204	48	197
Research, Engineering, Development	26	58	67	68	64	74	18	70
Trust Fund Share of FAA Operations	78	1,000	77	3	c	1	c	250
Other <sup>b</sup>	c	1	1	c	0	0	0	0
<b>Total, Outlays</b>	<b>287</b>	<b>1,389</b>	<b>699</b>	<b>521</b>	<b>579</b>	<b>547</b>	<b>92</b>	<b>853</b>
Trust Fund Receipts	1,184	1,551	832	840	962	938	277	1,191
Trust Fund Outlays	287	1,389	699	521	579	547	92	853
Net Income before Interest	897	162	132	319	383	391	185	338
Interest on Investments	0	0	0	28	96	146	1	194
Change in Cash	897	162	132	347	479	537	186	532
Unexpended Balance, Start of Year	0	897	1,058	1,187 <sup>e</sup>	1,534	2,013	2,550	2,736
Change in Cash	897	162	132	347	479	537	186	532
Unexpended Balance, End of Year	897	1,058	1,191	1,534	2,013	2,550	2,736	3,268
Commitments Against Unexpended Balance	1,290	1,519	1,821	1,611	1,102	862	1,302	1,466
Uncommitted Balance, End of Year	-393	-461	-630	-76	912	1,688	1,434	1,801
General Fund Share of FAA Spending <sup>d</sup>	1,259	233	1,150	1,334	1,432	1,586	390	1,516

SOURCE: Congressional Budget Office and the Appendix to the Budget of the United States.

- a. Aviation excise tax revenues of \$1,180 million in 1981 and \$1,036 million in 1982 were not credited to the trust fund, but remained in the general fund.
- b. Other includes spending for the Aviation Advisory Commission from 1971 to 1974, and transfers to the National Oceanic and Atmospheric Administration to fund the aviation weather services program beginning in 1984.

(Continued)

TABLE 2. Continued

1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>Trust Fund Receipts</b>										
1,109	1,284	1,601	19	130	1,889	2,181	2,509	2,402	2,700	2,815
65	81	92	-2	0	118	134	134	137	159	168
50	64	70	c	4	95	105	105	112	115	117
77	72	92	9	0	62	80	108	93	91	95
26	26	21	1	0	0	0	0	0	0	0
1	1	1	0	c	1	c	0	0	0	0
-2	-2	-3	-4	-1	c	-2	-4	-8	-6	-6
1,326	1,526	1,874	21	133	2,165	2,499	2,851	2,736	3,060	3,189
<b>Trust Fund Outlays</b>										
562	556	590	469	339	453	694	789	853	917	825
211	188	230	252	292	248	268	425	758	892	1,043
67	70	78	89	72	71	146	262	293	170	170
275	300	325	495	810	1,020	257	1,110	435	622	830
0	0	0	0	0	0	27	27	27	29	28
1,115	1,114	1,224	1,306	1,512	1,792	1,392	2,613	2,365	2,631	2,896
1,326	1,526	1,874	21	133	2,165	2,499	2,851	2,736	3,060	3,189
1,115	1,114	1,224	1,306	1,512	1,792	1,392	2,613	2,365	2,631	2,896
211	412	650	-1,284	-1,379	373	1,108	238	371	429	293
219	282	400	561	542	533	546	746	829	880	893
430	694	1,050	-724	-837	906	1,653	985	1,200	1,310	1,185
3,268	3,698	4,392	5,442	4,719	3,881	4,787	6,441	7,426	8,625	9,935
430	694	1,050	-724	-837	906	1,653	985	1,200	1,310	1,185
3,698	4,392	5,442	4,719	3,881	4,787	6,441	7,426	8,625	9,935	11,120
1,413	1,598	1,640	1,705	1,793	2,795	3,431	4,558	4,750	4,376	5,285 <sup>f</sup>
2,284	2,794	3,803	3,014	2,088	1,992	3,010	2,868	3,875	5,559	5,835 <sup>f</sup>
1,663	1,736	1,913	1,853	1,380	1,612	2,454	1,681	2,334	2,293	2,324

c. Less than \$500,000.

d. The general fund share of FAA spending is not part of the trust fund, but is included here for comparison with trust fund outlays.

e. The beginning unexpended balance in 1974 is \$4 million less than the end-of-year unexpended balance in 1973 because of an accounting adjustment.

f. The uncommitted balance and the commitments against the unexpended balance for 1988 are preliminary.

terest was not paid by the Treasury on the cash balance in the trust fund in this period, but began in 1974 after requirements in the 1970 act were met.<sup>8</sup>

On the spending side, the trust fund financed only a portion of the expenditures for aviation programs in 1971; most of those expenditures were financed from old, pre-trust-fund accounts in the general fund. In 1972, all of the operations cost of the FAA was paid from trust fund balances. The Congress subsequently enacted an appropriation to replace these funds in the trust fund and eliminated the authorization for such financing of FAA operations after 1972.

In 1981 and 1982, trust fund revenue was reduced by the lapse of authorization to transfer aviation excise tax revenue from the general fund into the trust fund and by the lapse of some of the taxes as well. The aviation taxes that existed before the trust fund were still collected, but they were not credited to the trust fund. These taxes consisted of a 5 percent tax on passenger tickets, a 4 cents per gallon general aviation gasoline tax, a 4.875 cents per pound tax on aircraft tires, and a 10 cents per pound tax on aircraft tubes.<sup>9</sup> Revenues from these taxes were \$1.2 billion in 1981 and \$1.0 billion in 1982. Revenues from the ticket tax remained in the general fund, while the gas, tire, and tube taxes were credited to the Highway Trust Fund. During this period, trust fund income consisted almost exclusively of interest income; therefore, all of the percentages discussed below are calculated by excluding these two years. After excise taxes and trust fund transfers were reauthorized in 1982, trust fund income in 1983 once again fully reflected aviation excise tax revenue.

### Points of Interest

A look at Table 2 reveals five points of particular interest. First, on the revenue side, the large proportion of trust fund tax revenue provided by domestic airline passengers is quite apparent. The tax on

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8. Section 208(e)(3) of P.L. 91-258 required investment of trust fund balances in interest-bearing securities of the federal government or securities guaranteed by the federal government. This investment was not to occur, however, until the fiscal year after the first fiscal year in which tax receipts exceeded 80 percent of trust fund outlays. This condition was met in 1973.

9. The gasoline tax was 2 cents per gallon and the tire tax was 5 cents per pound in 1970.

tickets produces most of the trust fund's tax revenues, accounting for about 85 percent of annual collections since 1971 and 88 percent for each of the last five years. The waybill tax, fuel taxes, and departure tax have averaged only 5 percent, 4.5 percent, and 4 percent, respectively, of total tax revenue to the fund over the entire period.

Second, interest credited to the trust fund by the Treasury has been a significant and growing portion of total trust fund income. Since 1974, these receipts have averaged over 19 percent of total trust fund income. Over the last five years, this percentage has grown to 21 percent.

The importance of interest income can be seen by comparing the total interest credited to the trust fund since 1974 with the 1988 cash balance. The accumulated interest income at the end of 1988 was \$6.9 billion, while the cash balance was \$11.1 billion. Excluding interest income, the cash balance would drop to \$4.2 billion, which is less than the \$5.3 billion in commitments against the trust fund at the end of 1988. In other words, the trust fund would have had unfunded authorizations, not an accumulated surplus, at the end of 1988 if interest income had not been credited to the account over the last 15 years.

Third, on the outlay side, changes in capital spending for airports and the airway system have come in spurts with each new authorization, but have been fairly constant otherwise. From 1972 to 1976, airport spending averaged about \$230 million a year, while facilities and equipment, and research, engineering, and development, combined, averaged about \$300 million. Following the Airport and Airway Development Act Amendments of 1976, outlays for airport grants jumped to an annual average of \$475 million from 1977 to 1982, while spending for the airway system remained unchanged at an average of just over \$300 million a year. The Airport and Airway Improvement Act of 1982 authorized large increases in spending for the airway system as the initial funding for the National Airspace System Plan. These increases have been only partially reflected in outlays since then because of delays in these programs. Nevertheless, annual average spending for the airway system has risen to over \$700 million a year during the 1983-1987 period, and to over \$1.2 billion in 1988. Outlays for airport grants have continued to rise in step with the greater contract authority provided in the 1982 and 1987 acts, but they have been restrained by annual obligation limits. Outlays for

airport grants have averaged nearly \$750 million during the 1983-1987 period and were more than \$800 million in 1988.

Fourth, trust fund outlays for FAA operations have varied greatly because of legislative provisions.<sup>10</sup> Essentially no financing from the trust fund occurred in the 1973 to 1976 period when this spending was prohibited and all operations costs of the FAA came from the general fund. During the 1977-1980 period, about 15 percent of such spending was financed from the trust fund. In the period since 1980, trust fund outlays have fluctuated because of the cap and penalty provisions. The resulting trust fund share of total operations outlays has ranged from a low of 10 percent in 1984 to highs of 41 percent in 1983 and 1985, and has averaged 27 percent during this period.

Finally, the unexpended and the uncommitted balances in the fund have grown nearly continuously from the beginning of the trust fund. The unexpended or cash balance grew steadily until 1981 when the flow of tax revenue into the fund was temporarily interrupted. After 1982, the cash balance again grew steadily through 1988, exceeding \$11 billion. While interest income, as noted above, has been substantial and has contributed greatly to the current large cash balance, tax revenue by itself exceeded outlays from the fund for aviation programs in each year except 1981 and 1982. Therefore, even without interest income, the fund would have had a substantial cash balance, though it would have been about 20 percent short of covering all commitments for aviation programs (\$4.2 billion versus commitments of \$5.3 billion).

The unexpended balance is larger than the cumulative surplus in the fund because it does not net out committed funds. These are funds that have been appropriated but not yet expended for airway programs (for facilities and equipment, and for research, engineering, and development) or funds that have been authorized for airport grants-in-aid (a program with direct spending authority), but not yet made available for obligation or expended. The cash balance less these commitments is the uncommitted balance. This amount represents the accumulated surplus or deficit in the trust fund account.

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10. While FAA headquarters administration spending has been funded separately from FAA operations since 1983, it is combined with FAA operations spending for the purposes of this study.

The uncommitted balance exhibits more variability than the cash balance because of the interaction of trust fund revenues, authorizations, appropriations, and outlays. This balance began to grow substantially in 1975 and reached nearly \$4 billion by 1980, after which the deposit of tax revenue in the fund was interrupted. This funding hiatus nearly halved the uncommitted balance by 1983 before it began growing again. By 1988, it had reached more than \$5.8 billion, or more than half the cash balance in the trust fund.

### Current Status of the Trust Fund

At the end of 1988, the Airport and Airway Trust Fund had a cash balance of over \$11 billion, net income excluding interest earnings for the year of almost \$300 million, interest income of nearly \$900 million, and an accumulated surplus of over \$5.8 billion. While all of these amounts have been growing in recent years, it is the growth in the uncommitted balance or accumulated surplus that has generated the most concern and controversy in the debates over aviation programs and their financing.

The size of the uncommitted balance reflects both revenue and outlay effects. On the revenue side, the uncommitted balance has been reduced by the interruption of the flow of aviation taxes into the fund in 1981 and 1982. Those tax revenues totaled \$2.2 billion for the two years. The balance has been increased by the interest income generated by the large cash balances that have grown as a result of constraints and restrictions on spending from the trust fund. In addition, the interest rate used for computing interest credited to the fund by the Treasury is calculated by an obsolete method that has overstated interest income in recent years.<sup>11</sup>

On the outlay side, because of both program and budgetary restraints, expenditures for airports and the modernization of the air traffic control system have fallen short of authorizations; and, partly

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11. This interest rate, by law, is an average coupon rate for all outstanding government securities rather than the market rate for current borrowing that is used for other trust funds such as Social Security and Medicare. This rate tends to lag behind changes in market rates so that, in periods of falling rates, as in some recent years, both the interest rate and the interest income earned by the trust fund are overstated. Conversely, in periods of rising rates, the interest rate and the interest income would tend to be understated.

as a result, spending from the trust fund to cover FAA operating costs has been reduced.

What all of this means for the trust fund and future funding of aviation programs depends, to some extent, on one's prior assumptions. If one views the trust fund as a capital-only funding mechanism, the accumulated surplus could be seen as a hoarding of income and as evidence that insufficient capital spending is taking place given the current level of tax revenue. Conversely, the uncommitted balance could be seen as an indicator that the trust fund is overfunded and that, given the current levels of capital spending, the taxes supporting it are too high. If one views the trust fund as a full user-pay system, the accumulated surplus could be seen as evidence that the trust fund is capable of supporting more of the costs of the aviation system than it now finances. Finally, if one views the trust fund as a partial funding, hybrid system, then all of these factors taken together could be viewed as indicators of a healthy trust fund--one that has more than adequate resources to support the programs it currently finances.

## CHAPTER II

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# AN ANALYSIS OF THE ACCUMULATED SURPLUS IN THE TRUST FUND

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This chapter analyzes the current trust fund uncommitted balance and calculates alternative balances that incorporate capital-only funding and full private-user funding of aviation programs through the trust fund.

### WHO PAYS FOR WHAT?

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Since the trust fund is only an accounting device, its receipts, outlays, and balances may differ markedly from the taxation and spending that actually took place or from the accounting that would have been made if different purposes had been assigned to the trust fund's receipts. By comparing tax revenue paid by private-sector users of the aviation system with estimates of their share of the system's costs, one can determine whether the private sector is financing the aviation services it receives or whether it is receiving a subsidy from general taxpayers. Quite apart from this question, however, is the determination of what spending has actually been charged against trust fund receipts and what the trust fund balances would have been under different accounting criteria for aviation system spending.

The calculations in this chapter show that, while aviation excise tax revenues have been more than sufficient to finance the capital needs of the aviation system, they have been insufficient to finance the trust fund as a full user-pay system. General taxpayers have paid more than the public share of system use and, therefore, private-sector users of the aviation system have been subsidized by general taxpayers since the beginning of the trust fund in 1971. Since the trust fund accounts do not include either the full Federal Aviation Administration spending attributable to private-sector use of the aviation system or just the capital share of FAA spending, the current trust fund balances are misleading as indicators of private-sector support of

capital, operating, or total spending by the FAA on the aviation system.

### Estimates of Public Versus Private Use

Use of the aviation system can be separated into two broad categories: public-sector and private-sector use. Public-sector use of the system includes mainly military and civil government flying, together with services provided to nonaviators (mainly weather information). In addition, the FAA makes expenditures in the public interest for safety regulation of the aviation industry. Private-sector use of the system is principally by commercial and general aviation. Commercial aviation includes domestic, international, freight, and commuter air carriers. General aviation includes air taxis, rotorcraft, and planes flown by business, corporate, and pleasure fliers.

The FAA has periodically undertaken studies to estimate the allocation of the FAA costs of building, operating, and maintaining the airport and airway systems. The original study was done at the behest of the Congress as requested in the Airport and Airway Development and Revenue Act of 1970.<sup>1</sup> A new cost allocation study was undertaken in 1978.<sup>2</sup> This was updated and refined in 1985.<sup>3</sup> The 1978 and 1985 study results were roughly the same; since the 1985 study broke down the cost allocation into finer detail, and was based on the most recent programs of the FAA, the results of that study are reported here and have been used in allocating FAA costs.

The cost allocation study allocated all of FAA's costs based on estimates of the system's use by both public- and private-sector users of

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1. Department of Transportation, *Airport and Airway Cost Allocation Study: Determination, Allocation and Recovery of System Costs* (1973).
  2. John M. Rodgers, *Financing the Airport and Airway System: Cost Allocation and Recovery*, FAA-AVP-78-14 (1978).
  3. The 1985 study consisted of six volumes and a summary. The discussion here is based upon the work in the summary and the first three volumes: Daniel E. Taylor, *Airport and Airway Costs: Allocation and Recovery in the 1980s*, FAA-APO-87-7 (February 1987); Department of Transportation, *Allocation of Federal Airport and Airway Costs for FY 1985*, FAA-APO-87-11 (December 1986); Department of Transportation, *Allocation of Future Federal Airport and Airway Costs*, FAA-APO-87-12 (December 1986); and Department of Transportation, *Airport and Airway Costs Allocated to the Public Sector 1985-1997*, FAA-APO-87-13 (December 1986).

the airport and airway systems, the variable costs of each component of the aviation system, and allocations of joint and indirect costs. The 1985 study included two versions of two basic allocations--namely, an allocation where all users were assigned a portion of joint system costs, and an allocation where general aviation paid none of the joint costs but only the costs avoidable by the FAA if general aviation's use of individual parts of the system were to be discontinued (called the minimum general aviation allocation). One version of each of these allocations assigned FAA expenditures for regulation of the industry to users, and the other version allocated all of these expenditures to the public interest.

The allocation of concern in this study is the split between the public and private sectors, not the allocation within the private sector. The 1985 study estimated current and future (through 1997) public-sector shares of FAA spending based on assigning FAA regulatory costs either to system users or to the public interest (and therefore the public sector). The projections ranged from 9.9 percent to 18.8 percent. The 1978 study did not do alternative allocations of the regulatory costs but assigned them to the public interest. In that study, the cost allocation to the public interest was found to be 14.5 percent in 1978.

In performing the analysis in this study, 15 percent of FAA expenditures were allocated to the public. This percentage was chosen since valid arguments can be made for assigning regulatory cost either to users or to the public interest. If these costs were split equally between users and the public interest, the public-sector share would be about 16 percent in 1985 and decline to about 12.5 percent in 1997, based on the projections in the 1985 study. This finding, in combination with the 1978 result of 14.5 percent for the public interest, suggests that 15 percent might rarely be a slight underestimate of public-interest costs. Over the historical periods and the projection period used in this study, however, it would more likely be an overestimate of the public interest allocation. Therefore, 85 percent would tend to be a conservative estimate of the private-sector share of total FAA spending. Under a full user-pay trust fund system, wherein private-sector users of the aviation system shoulder the full costs they impose on the

system, 85 percent of FAA spending would have to come from user aviation excise tax revenues.<sup>4</sup>

### Federal Aviation System Expenditures

Current FAA spending for aviation includes airport grants-in-aid; capital expenditures on the airway system for facilities and equipment, and for research, engineering, and development; and FAA operations expenditures for operating and maintaining the airway system. All expenditures in the grants-in-aid, facilities and equipment, and research, engineering, and development programs are charged to private-sector users since funding for these programs is from the trust fund, but only a portion of FAA operations spending is paid from the trust fund.

Since 1980, the trust fund share of FAA operations spending has averaged 25 percent. For private-sector users to support 85 percent of total FAA spending, a much higher percentage of the operations account would have to be financed by the trust fund. In 1988, for example, 73 percent of FAA operations spending would have had to be paid from the trust fund to yield an overall trust fund share of FAA spending of 85 percent. Since the actual percentage for 1988 was 26 percent, the additional 47 percent of operations spending coming from the general fund can be characterized from a user-pay perspective as a general fund subsidy of the trust fund.

### Other Expenditures

General fund financing of federal air transportation programs is not limited to these expenditures by the FAA. The Department of Transportation retains some economic regulation of air carriers, provides subsidies for air service to some small communities, and maintains consumer protection regulations.<sup>5</sup> The National Transportation Safety Board (NTSB) investigates both commercial and general avia-

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4. The 85 percent share applies to budget authority (obligation limits for airport grants) and not outlays.

5. These regulatory responsibilities were performed by the Civil Aeronautics Board until its abolishment in 1985.

tion accidents. The National Aeronautics and Space Administration (NASA) conducts aviation research and development programs. In 1988, subsidies to air carriers totaled \$26 million, outlays for the NTSB were \$24 million, and outlays for the aviation portion of NASA's budget were \$644 million.

Users of the nation's aviation system benefit from these non-FAA programs. Yet the trust fund has never covered any of them, nor is any taxation of aviation users specifically designed to recoup these costs. While this study is confined to an examination of FAA spending, an analysis of these other programs would be necessary to determine the degree to which private-sector users pay their share of the cost of all the nation's air transportation programs.

### BASE-CASE RECALCULATION OF TRUST FUND BALANCES

In order to clarify the accounting for all tax revenue paid by private-sector users of the aviation system and the spending that revenue has supported, this study uses a base case for analyzing the trust fund. This base case is constructed from actual trust fund data as detailed in Table 2 in Chapter I with some adjustments to both revenues and outlays. The base case figures shown in Table 3 thus represent an abbreviated version of the trust fund programs in Table 2, with the following modifications.

Aviation excise taxes that were not deposited in the trust fund in 1981 and 1982 are included in tax revenue for those years. By including these tax revenues as income to the trust fund, the cash balances in the fund are increased by the same amounts, and therefore the interest income to the fund must be increased to reflect these higher cash balances. The line for interest on investments includes these higher interest earnings beginning in 1981 and continuing to the present. The additional tax revenue in these two years totals \$2.2 billion, and the total interest adjustment from 1981 through 1988 is \$2.5 billion. Therefore, both the cash balance and the uncommitted balance at the end of 1988 are higher than in Table 2 by \$4.7 billion.

TABLE 3. BASE CASE AND FULL FUNDING OF FAA SPENDING  
BY THE TRUST FUND (By fiscal year, in millions of dollars)

	1971	1972	1973	1974	1975	1976	TQ	1977
<b>Base Case</b>								
Trust Fund Tax Revenue <sup>a</sup>	563	649	758	840	962	938	277	1,191
Trust Fund Outlays <sup>b</sup>	287	742	626	521	579	547	92	853
Net Income Before Interest	275	-94	132	319	383	391	185	338
Interest on Investments <sup>c</sup>	0	0	0	28	96	146	1	194
Change in Cash <sup>d</sup>	897	162	132	347	479	537	186	532
Unexpended Balance, Start of Year	0	897	1,058	1,187	1,534	2,013	2,550	2,736
Change in Cash	897	162	132	347	479	537	186	532
Unexpended Balance, End of Year	897	1,058	1,191	1,534	2,013	2,550	2,736	3,267
Commitments Against Unexpended Balance	1,290	1,519	1,821	1,611	1,102	862	1,302	1,466
Uncommitted Balance, End of Year	-393	-461	-630	-77	911	1,687	1,434	1,801
General Fund Share of FAA Spending <sup>e</sup>	1,259	880	1,223	1,334	1,432	1,586	390	1,516
Percentage of Total FAA Spending	81	54	66	72	71	74	81	64
<b>Full Funding of FAA</b>								
Trust Fund Tax Revenue <sup>a</sup>	563	649	758	840	962	938	277	1,191
Trust Fund Outlays	1,510	1,358	1,617	1,552	1,721	1,870	379	1,993
Net Income Before Interest	-947	-710	-859	-712	-759	-933	-102	-802
Interest on Investments	0	0	0	0	0	0	0	0
Change in Cash <sup>d</sup>	-326	-454	-859	-712	-759	-933	-102	-802
Unexpended Balance, Start of Year	0	-326	-780	-1,643	-2,355	-3,114	-4,046	-4,148
Change in Cash	-326	-454	-859	-712	-759	-933	-102	-802
Unexpended Balance, End of Year	-326	-780	-1,639	-2,355	-3,114	-4,046	-4,148	-4,950
Commitments Against Unexpended Balance	1,290	1,519	1,821	1,611	1,102	862	1,302	1,466
Uncommitted Balance, End of Year	-1,615	-2,299	-3,459	-3,965	-4,215	-4,909	-5,450	-6,416
General Fund Share of FAA Spending <sup>e</sup>	37	263	232	303	290	262	103	376
Percentage of Total FAA Spending <sup>f</sup>	2	16	13	16	14	12	21	16

SOURCE: Congressional Budget Office and the Appendix to the Budget of the United States.

- a. Includes aviation excise tax revenues of \$1,180 million in 1981 and \$1,036 million in 1982 that remained in the general fund and were not credited to the trust fund.
- b. Excludes outlays of \$647 million in 1972 and \$73 million in 1973 that were actually financed by transfers from the general fund.
- c. Interest earnings after 1980 are larger than the actual numbers in Table 2 because of higher unexpended balances from the additional tax revenues in 1981 and 1982 (see note a).

(Continued)