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Department Editor: Walter H. Wager*

REPORT ON AIR TRANSPORTATION OF AVIATION SECURITIES COMMITTEE OF INVESTMENT BANKERS ASSOCIATION OF AMERICA**

I.—NATURE AND CHARACTERISTICS OF THE INDUSTRY

THE Civil Aeronautics Act, which provides the charter under which the air transport industry operates, is a basically sound piece of legislation, although its past administration has been far from ideal. With the passage of this Act in 1938, the Congress established our certificated airlines (domestic and international) as a regulated public service industry.

As a regulated business, the airlines give up the right to set fares without the approval of the Civil Aeronautics Board, to operate when and where they please, and to quickly withdraw service which they find unprofitable. In return for accepting these restrictions, they gain two important theoretical advantages — advantages which can become practical if the Act is aggressively and intelligently administered.

First: The certificated airlines are protected against unauthorized competition. The degree of competition authorized by the CAB to date has depended on the philosophy of the membership of the Board, the aggressiveness of the industry in requesting new routes, and the supposed outlook for the growth of air traffic.

In retrospect, the degree of competition allowed in the past few years appears to have been excessive. One of the main problems which now confronts the industry and the Board is how already certificated competition can be reduced.

In addition, the domestic airlines are subject to fairly heavy but probably temporary competition from "non-scheduled" freight and passenger lines. Our international certificated airlines are subject to competition from foreign flag airlines as well as from other American carriers.

Second: The certificated airlines are clearly entitled to sufficient financial support (mail payments) from the government to permit them, if honestly, economically and efficiently managed, to earn an adequate return on their invested capital, even though these mail payments may have to be so high as to contain a significant element of subsidy. To quote the Act:

"In determining the (mail) rates in each case the Authority shall take into consideration, among other factors . . . the need for each carrier for compensation for the transportation of mail sufficient to insure the performance of such service and, together with all other revenues of the air carrier, to enable such air carrier to maintain and continue the development of air transportation to the extent and of the character and quality required for the commerce of the United States, its Postal Service and the National Defense."

The amount of financial support granted through mail rates has depended on the philosophy of the Board, its judgment as to the probable future trend

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of traffic and costs, the enthusiasm with which the Post Office Department (in whose budget the funds for air mail payments are included) defends the appropriation requests before the Committees of Congress, and the willingness of the Congress to appropriate the necessary funds. Congressional attitudes have been influenced, among other things, by the state of the national budget, the philosophy of the party in power, pressures from competitive surface transport industries, and the importance currently placed on air transport as a factor in national defense.

Mail payments in the past few years have been inadequate, but, as outlined later, there are reasons to believe that they will be substantially increased in the near future.

In evaluating the degree to which the airlines are dependent on government assistance, it is important to remember that the cost to the government of the air mail service, since it was started in 1918, has been almost entirely offset by stamp revenue.

Airmail Payments and Revenues—1918-1947

Receipts from stamps on air mail letters.....	\$539 million
Payments to airlines for carrying air mail.....	405 million
Allocable Post Office Dept. overhead.....	183 million
Total Cost of Air Mail.....	588 million
Deficit	49 million

Despite this excellent showing over the past three decades, it is probable that air mail payments over the next few years will contain a substantial element of subsidy.

If the air transport industry is to show reasonable earnings over the near term future, air mail payments to our domestic carriers will probably have to be doubled, and payments to our international carriers substantially increased. Such increases are entirely consistent with the terms of the Civil Aeronautics Act, but they will mean that mail payments plus allocable Post Office overhead will be for a few years far above revenues from stamp sales. The period of deficits should not be unduly prolonged, however, for there is every probability that mail rates can again be slowly reduced once the industry is established on a sound financial basis.

In addition to payments for carrying the mail, the Federal Government since 1938 has expended over \$400 millions on the construction and operation of airways facilities, and the government and the municipalities have spent \$1,300 millions on the construction of civil airports, a large part of which were for the benefit of the certificated airlines.

Our domestic and international airlines are of major direct and indirect value to our national defense. Their importance in this sphere more than justifies the government aid they receive, entirely apart from the obvious reasons for assisting air transportation as an infant industry.

In war, when high-speed transportation and communication are of particularly vital importance, the airlines are a key segment of our transportation system. In addition, by furnishing trained personnel, and through contract operations, they provide an invaluable nucleus for building up the necessary military and naval air transport services.

Air transportation is also of fundamental importance to our domestic and foreign commerce. In the first six months of 1948 United States domestic airlines carried a volume of passenger traffic equal to 44.1% of Pullman traffic. Across the North Atlantic, our international airlines will carry 70% of the total air traffic, and total air passenger volume will be equal to 50% of first class steamship traffic.

In domestic service air transport is two to six times as fast as the fastest surface transport. On the ocean, it is five times as fast as the fastest steamships and ten times as fast as the average passenger liner.

Obviously, a method of transportation carrying such large volumes of traffic and offering such a great speed advantage over competitive methods is a most useful tool for all forms of commerce.

When both its national defense and its commercial importance is considered, it is clear that the aggressive support of air transportation envisaged in the Civil Aeronautics Act is in the national interest.

The following quotations from the reports of the President's Air Policy Commission and the Congressional Aviation Policy Board bear out this conclusion:

President's Air Policy Commission:

"The air lines . . . are passing through one of the most serious crises of their history. . . . This situation is significant for two reasons. If not relieved it will contribute to the rapid deterioration of air line service to the public. A second reason is now of even greater importance. The air lines have a fleet of aircraft of great value to the military services as a reserve in time of war. As a potential military auxiliary, the air lines must be kept strong and healthy."

"We must consider that direct government financial aid to commercial air lines is fully justified on grounds of national security and economic welfare. We believe the air transport system of this country can, with such aid now, become self-supporting in the future. We are convinced that any impartial investigators of air transport would endorse the use of public funds to obtain such a sound air transport system. This means the continued granting of subsidies to air lines for an additional period."

Congressional Aviation Policy Board:

"National security requires a financially sound, operationally efficient, and technically modern air transport industry."

II.—WAR TIME PROSPERITY AND POST WAR DIFFICULTIES

Between 1941 and 1946 the gross revenues of the domestic airlines increased over three fold, and during the last three years they have increased a further 20%. However, as indicated in the following table, this expansion in business has been accompanied by an extremely erratic earnings record.

*Revenues, Earnings and Security Prices of Certificated Domestic Air Lines**

	Total Gross Rev. (000)	Mail Rev. ^a (000)	% Mail Total	Pass. Load Factor	Cost Per Avail. Ton Mile Cents	Oper- ating Ratio	Oper- ating Income (000)	Air Transport Stock Price Ave.: (Dow Jones)		
								High	Low	Close
1941	\$ 97,309	22,696	23.2	59.1	27.7	92.4	\$ 7,390	26.6	17.8	18.6
1942	108,148	23,447	21.7	72.2	31.3	77.9	23,782	29.9	13.4	29.1
1943	122,995	24,103	19.6	88.0	36.9	77.8	27,432	43.5	27.9	33.9
1944	160,928	33,317	20.7	89.4	36.4	78.4	36,406	45.8	32.7	45.8
1945	214,743	33,693	15.7	88.1	34.6	84.0	34,417	91.7	45.1	84.6
1946	311,500	21,015	6.7	78.8	32.3	101.8	(5,621)	86.3	39.3	41.0
1947	352,490	29,089	8.2	65.7	30.9	105.9	(20,900)	46.2	30.0	30.6
1948	418,003	^b 47,747	11.4	58.5	30.5	99.5	(2,292)	39.2	25.6	29.0

* Feeder lines omitted. See appendix. () Loss

^a Includes retroactive mail revenue applicable under CAB note orders and "Show Cause" orders issued through April 21, 1949.

^b Includes the following amounts in retroactive mail payments awarded in 1948: Capital \$1,491,906; Inland \$75,050; Mid-Continent \$183,775; National \$329,762; Northwest \$2,100,658; T.W.A. \$1,761,692; United \$1,913,235; Western \$975,461. American also received award, but did not indicate amount included.

The industry reported high profits, thanks to abnormally favorable conditions, during the war years. Net operating income increased from \$7 millions in 1941 to a peak of \$36 millions in 1944, and the operating ratio fell from 92 in 1941 to 78 in 1942 and 1943.

This good showing was primarily due to an abnormally high *density* of passenger traffic. Gross passenger revenues rose only 68% between 1941 and 1944 because the airlines were unable to obtain additional equipment to handle increasing traffic. But under war conditions people were willing to travel at any hour of the day or night, and thanks to their rush to fill the few available seats the industry load factor rose to 90% as compared to the normal prewar figure of 55-60%. Air mail revenues increased some 50% between 1941 and 1944 and, in addition, the airlines performed profitable contract services for the military.

From a net operating income of \$34 millions in 1945, domestic airlines earnings fell to an operating loss of nearly \$6 millions in 1946. In 1947, and the first half of 1948, the industry lost an additional \$31 millions. While the total loss in these last eighteen months is less than half depreciation charges of \$65 millions, it is nevertheless extremely serious.

This poor showing in a period when most American industries have been reporting record profits has been due in large part to major mistakes on the part of both the airline managements and the Civil Aeronautics Board.

Fortunately most of these mistakes are well on the way to correction and, except for the excessive granting of new routes, will not impede the future development of the business. They are summarized below:

- (1) Overestimating the probable growth of traffic.
- (2) Hiring of an excessive number of personnel and purchasing an excessive number of aircraft to cope with the expected increased traffic.
- (3) Insufficient control of costs during this expansion period.
- (4) Grounding of new types of aircraft (due to remediable defects) for many months which resulted in heavy loss of revenue.
- (5) Major strikes which resulted in heavy losses for the airlines affected.
- (6) Excessive granting of new routes by the Civil Aeronautics Board.
- (7) Reduction of both mail and passenger rates on the erroneous assumption that traffic would greatly increase and costs decline.
- (8) Inability to markedly reduce costs in the face of the rising price level despite the introduction of more efficient aircraft.

A long essay might be written on each of these problems but for the purpose of this report a discussion of the two most important—points 1 and 7—should prove sufficient. (Point 6 is analyzed in some detail in a later section.)

Most of the industry's difficulties stem from over-estimating the probable growth of traffic, an error which was shared by the CAB. It was commonly expected that air passenger travel would continue to show a steady increase of 25-30% until well into the 1950s.

These optimistic estimates failed to give adequate weight to the fact that total war-time travel was inflated to an extraordinary degree and, therefore, did not provide a sound basis for projecting future travel trends. Further errors were made in assuming that the airlines would greatly improve their safety and regularity and sharply reduce their costs in the immediate post-war period. Neither of these goals has been reached.

Actually, instead of increasing spectacularly, airline travel has held about steady since 1946 while Pullman travel has declined about 35% between 1946 and 1948.

Air and Pullman Traffic — 1940-1948
(million passenger miles)

	Pullman	Air	Air % of Total Air and Pullman
1940	7,243	1,052	12.7
1946	20,672	5,903	22.2
1947	13,516	6,011	30.7
1948	12,172	5,823	32.4

This is an excellent comparative showing and has resulted in a growing penetration of the total long distance travel market by the airlines, but is far below what both the airlines and the CAB expected.

In 1945, the CAB faced with high airline earnings and estimates of rapidly increasing traffic, and with the introduction of new and supposedly more economical equipment, became convinced that if the air mail payments to the larger carriers were not reduced, they would soon be making excessive profits. As a result, in 1945, the mail rates of the "Big Five" were cut from 60 cents per ton mile to 45 cents per ton mile. In addition to the cut in rates, total air mail volume declined from 65 million ton miles in 1945 to 33 million ton miles in 1946, due to the practical disappearance of soldiers' mail that came with the demobilization. Mail payments to the industry consequently fell from \$34 million in 1945 to \$20 million in 1946 and \$23 million in 1947. This latter figure is little higher than in 1940 when the total gross revenues of the industry were but one-sixth of the 1947 level.

The average mail rate for the industry as a whole in 1947 was only 70.9 cents per ton mile as compared with \$1.74 in 1941.

The assumptions on which the CAB based this reduction in mail pay turned out to be wholly unfounded. Far from enjoying excessive profits, the industry as we have seen, has reported large losses since 1946, due in part to expenditures in preparing for a heavy increase in traffic which failed to materialize.

In retrospect, it is clear that the CAB should have actually *increased* mail rates as the volume of mail traffic declined from the war-time peak, to permit the industry to show sufficient earnings to raise the equity capital necessary to buy new aircraft and modernize its ground facilities.

In addition to reducing air mail rates, the CAB took the initiative in encouraging the industry to reduce passenger fares (although certain major airlines were also anxious to reduce fares). There was general agreement that lower fares were necessary to open up the "mass transportation market" to the airlines and it was felt that the introduction of the new, more efficient types of aircraft would reduce costs sufficiently to make the lower rates economically feasible. The industry's average passenger fare fell from 4.95 cents per passenger mile in 1945 to 4.76 cents in 1946.

III. — SPECIAL SITUATION OF U.S. INTERNATIONAL AIRLINES

Space prevents detailed treatment of the problem of the international airlines. However, the following table gives basic figures for their operations for the *fiscal* years 1942-1948 which may be compared in a general way with the results of the domestic carriers.¹

¹ One major international carrier is also a domestic airline, the results of whose foreign and domestic operations are consolidated in its annual report. Another is 62% owned by a domestic airline. Two other domestic lines are just beginning international operations.

Certificated International Airlines Revenues and Earnings

Fiscal Years Ending June 30	Total Revenues (000)	U.S. Mail Revenues ^a (000)	U.S. Mail Revenues as Pct. of Total Revenues	Passenger Load Factor	Operating Profit (000)
1942	\$ 44,152	\$15,360	34.79%	67.92%	\$ 9,082
1943	38,764	4,778	12.33	78.10	2,711
1944	37,505	3,036	8.09	79.31	2,143
1945	50,000	5,773	11.55	78.01	435
1946	95,437	10,096	10.58	77.79	6,695
1947	164,194	16,450	10.02	63.47	(16,015)
1948	224,057	42,248	18.86	59.50	534

The sharp increase in gross revenues from \$95 millions in 1946 to \$224 millions in 1948 is due to the opening of normal post war service to foreign countries, particularly on the North Atlantic. It should also be noted that this branch of the industry showed large losses in only one year (1947), and actually reported a small profit for 1948. This is due in part to more liberal mail pay treatment by the CAB.

Substantial retroactive mail payments to our international carriers, and an increase in their rates for future service, are expected to be announced by the CAB in the near future.

Our international airlines must meet heavy competition from foreign carriers and, in addition, compete with other American carriers on important routes. Since all certificates to American carriers on the North Atlantic are temporary ones, expiring in 1953, there will be an opportunity to review the competitive situation at that time.

IV. — FINANCING OF THE AIR TRANSPORT INDUSTRY — 1940-1947

Calendar Year	Bonds and Debentures (000)	Notes*	Proceeds Pfd. Stock	Proceeds Common Stock	Total
1940					
1941	None	4,756	1,875	1,115	7,786
1942	None	1,504	None	None	1,504
1943	None	205	10,503	7,250	17,958
1944	None	296	None	3,802	4,098
1945	40,000	6,837	None	6,422	53,259
1946	50,000	26,986	40,800	12,333	130,119
1947	22,000	44,390	19,227	3,813	89,430

In 1945, when the industry's total assets were only \$253 million, it was estimated that the airlines would expend \$750 million over the next five years for the purchase of new aircraft, ground facilities, etc.

A responsible study made at the time indicated that this sum would be obtained as follows:

	Millions of Dollars
Retained earnings	80
Depreciation	170
Sale of equity securities	150
New debt	350
Total	<u>750</u>

() Loss.

^a U.S. International Airlines received U.S. mail revenue for calendar years with retroactive adjustment through April 21, 1949, as follows: 1946—\$20,068,000; 1947—\$33,288,000; 1948—\$52,522,000.

* Principally borrowing from banks on equipment mortgage loans, term loans and promissory notes, but also includes borrowing on notes from aircraft manufacturers, the RFC and other corporations.

These figures were, of course, scaled down drastically when it became evident that the expected expansion of traffic was not to materialize and also by virtue of necessity when capital became difficult to raise.

It will be noted that debenture and preferred stock financing predominated until the beginning of 1947 and that, since that time, the large majority of new funds have been obtained through bank loans.

Some of this bank loan was for equipment purchases and other similar expenditures which would have been better financed through the sale of securities.

There has, unfortunately for the industry, been comparatively little equity financing. When equities could have been sold on a favorable basis, during the period of high airline earnings (1945), most managements expected their stocks to sell still higher and consequently postponed equity financing. Some were also attracted by the "leverage" potentialities for their common stocks through raising a substantial part of their capital through the issuance of senior securities.

As a result of these trends, the capital structure of the industry has changed drastically since prewar days when the vast majority of airline capitalization consisted of common stock.

Capitalization of Domestic Certificated Airlines

	Total Industry		Four Lines Having Long-Term Obligations	
	1940 %	1947 %	1940 %	1947 %
Common Equity	81.6	36.2	76.7	18.0
Preferred Stock	10.8	18.0	14.4	22.0
Debt	7.6	45.8	8.9	60.0
Total	\$52,218,000	\$327,728,000	\$35,413,000	\$235,177,000

The degree to which the industry has burdened itself with short-term obligations and fixed charges is indicated by the following tabulation:

Notes payable within one year.....	\$16,100,000*
Annual interest and sinking fund payments on Debentures	5,258,000
Annual dividends on preferred stock.....	2,356,000
Total	\$23,742,000

Obviously, the proportion of bank loans to total capitalization is too heavy, and substantial refunding operations will be necessary as soon as market conditions and the industry's earnings record permit.

Moreover, the industry is in need of substantial amounts of new capital. Although a few lines appear over-equipped with new aircraft, many need to replace their obsolete DC3s and DC4s with modern Convair 240s, Martin 202s, DC6s, Constellations or Strato-cruisers. The new equipment requirements of the domestic lines, based on present traffic expectations, is estimated at some \$100 millions. Total capital needs of the domestic industry over the near term, or three years, might be conservatively estimated at \$225 millions divided as follows:

	Millions of Dollars
Refinancing	\$100
New flight equipment	125
Total.....	\$225

* Not including interest charges estimated at roughly \$2½ to \$3 million.

Thanks to the heavy losses of the industry during the past three years and, until recently, the uncertainty of Government policy toward it, airline credit has been at a low ebb. If it continues at this level, it will be difficult, if not impossible, for the airlines to obtain the capital funds necessary to their sound future development.

V. REASONABLY PROMISING MEDIUM TERM OUTLOOK

Fortunately, there are signs that the industry has turned the corner economically that its earnings outlook over the next two or three years is relatively promising.

There are four principal reasons for taking this view:

1. *The Government support required by the Civil Aeronautics Act is likely to be furnished.*

Regardless of mistakes made by airline managements and the CAB over the past three years, the Civil Aeronautics Act (Sec. 406) clearly requires that the Board allow adequate mail rates to permit any airline which is honestly and efficiently managed to break even, and, in addition, earn a fair return on its used and useful investment.

During 1946 and 1947, the CAB, as then constituted, failed to recognize this responsibility. Its mail rate decisions in this period provided payments which were far too small to offset the heavy losses which the airlines were experiencing.

However, since the appointment of Joseph O'Connell as Chairman in March, 1948, the Board has taken a much more clear cut view of its responsibilities to provide adequate mail pay.

The so-called "Big Five" air mail decision of April, 1948, (retroactive to January 1, 1948) increased the air mail rates of those carriers 30%. This amount was estimated to be sufficient to permit them to earn 10% on their invested capital provided passenger traffic increased 10%.

However, instead of increasing, passenger volume in 1948 will actually be 3% below 1947, due in part to the effect of a serious accident last June. The grounding of the DC-6s in the first quarter of 1948 also resulted in a large loss during the first quarter of the year.

In consequence, all five companies filed briefs in opposition to the April rates as inadequate. They asked for increases which would have brought the total annual mail pay to \$48 millions as compared to the \$20 millions allowed in the Board's April decision and the \$13 millions they received in 1947. In addition, some companies asked for large retroactive payments.

No action has been taken on these requests and a decision is not expected until the late spring or early summer of 1949, following decisions on pending international cases which are promised for this month. However, in the fall of 1948, the Board issued several very favorable rate decisions in cases involving smaller airlines which appear to constitute important precedents for the pending "Big Five" cases.

Several of the decisions have granted retroactive mail payments equal to roughly 60% of past losses during the period covered by the petition. Rates for future service, in many cases, are double past rates and would seem sufficient to ensure the companies a modest profit in 1949 at current levels of passenger traffic.

Even more significant than the actual increases granted is the fact that the Board has clearly interpreted the Civil Aeronautics Act as requiring the

provision of adequate mail pay. To quote the Delta Air Lines decision of September 8, 1948:

"Under Section 406(b) of the Act, Delta is entitled to a mail rate which will enable it under honest, economical and efficient management to break even and which, in addition, will provide a fair return on Delta's used and useful investment."

A large increase in air mail appropriations will be necessary to provide the funds for the increased mail payments which the CAB is expected to approve.

The following table compares actual payments for the fiscal years 1946 through 1948 with an estimate of the amount of mail pay which the airlines would need to show a 10% profit on 70% of their investment.²

This somewhat arbitrary figure indicates that air mail payments in the 1949 and subsequent fiscal years might total \$130 million (excluding retroactive payments) for both domestic and international lines—a \$52 million increase over fiscal 1948.

Though this is a substantial figure, it is very small as compared to the estimated deficit on second class mail and the 1949 appropriation of \$2,808 millions for the purchase of military and naval aircraft.

Large though this increase would be, it would only bring 1948 mail pay to 20% of the industry's total 1948 revenue, or about the same percentage as in 1942. The rates per ton mile would be somewhat more than in 1942 in the case of the domestic airlines.

	Domestic	International	Total
Total Revenues 1948 Fiscal Year...	\$374,906,000	\$220,904,000	\$595,810,000
Estimated Mail Pay Necessary for 10% Profit	61,400,000	58,800,000	120,200,000
Percent of mail to total 1948 Re- venues	16.4%	26.6%	20.2%
Mail rate per ton mile on 1948 volume	\$1.83	\$4.18	\$2.52
Percent Mail Revenue to Total Rev- enue—1942 (calendar)	21.7%	34.8%	25.5%
Mail rate per ton mile—1942—cal- endar	\$1.10	\$9.92	\$1.71

In considering requests for increased air mail appropriations, the Congress will have in mind the very strong recommendations of the President's Air Policy Commission and the Congressional Aviation Policy Board for the development of a healthy air transport industry as an important adjunct of national defense. These recommendations did not receive adequate attention during the last Congress because the expansion of our military air forces, which was also recommended by these policy groups, quite properly received first priority. However, the first stage of our aviation program is now well underway and the importance of air transport has since been highlighted by the dramatic achievements of the Berlin air lift.

The atmosphere in the new Congress should, therefore, be favorable for a full-dress review of the degree of government support required by our air transport system.

The large Democratic majority in the Congress would appear to remove the danger of a change in the CAB Chairmanship and of a politically inspired investigation of the CAB and the industry as a whole, which had been feared in some quarters.

² On the average, the CAB has usually allowed 70% of airline assets in estimating return on invested capital.

2. *Probability that the present excessive competition will be reduced by merger or otherwise over the next five years.*

Increased mail pay alone will not be sufficient to put the air transport industry on a thoroughly sound basis. Means must also be found to reduce the present degree of competition, while at the same time retaining the competitive urge so essential in spurring management to greater efficiency and technical progress.

There is little doubt that the present route structure is unsound. Between 1941 and 1948 the CAB, responding to the requests of the airlines for new routes, has expanded the total domestic certificated route mileage from 46,653 to 111,342. Much of this expansion was necessary to adequately serve the country, but a great deal was not. It has created a number of basically uneconomic systems, due to the attempt to "make big carriers out of little ones." It has also resulted in competition so intense as to be destructive in a number of cases. The fifty pairs of cities having the densest traffic between them is an example. In 1940, only 9.8% of the traffic between these pairs was competitive. By 1948, 54% was competitive and *four* airlines are actually competing with each other between pairs accounting for 13% of the total traffic. Moreover, some cities have been granted service which appear incapable of developing an adequate amount of traffic for some time to come. One major carrier claims that if it were permitted to drop some 40 points on its system which provide only 8% of its total revenue, it could save \$4 millions per year.

The solution of these problems will not be easy. Management could do a great deal to reduce the destructive effects of existing competition by giving up the over-scheduling in which so many of them indulge in order to exert the maximum pressure on competitors. If they do not do so, it is possible that the Board may exercise its power to control schedules, which it has in the case of the so-called "need" (subsidy) carriers.

The reconstitution of unsound systems and the reduction of competition through mergers, though eminently desirable, is more difficult still. To make such mergers possible many "personal and corporate ambitions will have to be relinquished," and the financial pressure for either mergers or management changes has been greatly reduced by recent and prospective increases in mail rates.

Nevertheless, the Board is doing everything in its power to encourage mergers and the Congress will probably do likewise. The Congressional Aviation Policy Board made specific reference in its report to the necessity of reorganizing the route structure, and if voluntary mergers are too long in coming Congress may well grant the CAB powers to require the necessary changes.

3. *Increase in Fares and Reduction in Costs.*

In recent months domestic airlines have substantially increased passenger fares, and at the same time experimented profitably with special reduced fares for family travel and "second class" service. The average passenger fare for the industry in September, 1948, was 6 cents a mile as compared to 4.76 cents in 1946. Further experimentation with the fare structure may do much to increase both volume and total gross.

The air transport industry has done well, thanks principally to technological improvements, to keep its ton mile costs at or below the 1939 level. This has been accomplished despite an increase of 116% in the average hourly wage rate (all manufacturing industries) and 112% in commodity prices in this period.

The industry's costs per available ton mile rose from 27.7 cents in 1941 to 32.3 cents at the height of the expansion of 1946. Since that time there have been marked reductions. One leading carrier has reduced its available ton mile costs from 28.0 cents in the third quarter of 1946 to 26.1 cents in the third quarter of 1948. Its break-down load factor has been cut from 79.1% to 54.5% in the same period.

Other substantial cost savings are possible, particularly in the realm of consolidated use of ground services, but such saving will only serve to reduce the dependence of the industry on mail pay. Reduction of costs to the point where the airlines can tap a much larger "mass transportation" market appears far in the future.

4. *Probable Medium Term Growth in Traffic*

So much attention has been given to the excessively optimistic traffic predictions of the past that there is danger of going to the opposite extreme and assuming that the domestic airlines are to be permanently limited to a volume of six billion passenger miles a year.

While most estimates of 1949 traffic do not assume any very great increase, there are several factors which may make for substantial growth over the next five years.

- (1) Due to the rearmament boom or possibly war the total volume of non-local travel may rise.
- (2) With the improvement of safety and regularity—which should be steady and cumulative over the next five years, as new aircraft gets the "bugs" worked out of them, and air navigation facilities are improved—the airlines should obtain an increasingly large percentage of the non-local transportation market even at present rates.
The spectacular accidents and relatively poor regularity record of the last three years have played an important part in holding passenger volume down.
- (3) Looking still further ahead, the cargo business may prove an important source of profit five to ten years hence. The introduction of turbo power and jet transports at this time will improve the quality of passenger service.

Airline securities are not normally thought of as "war stocks," but it is well to remember that in the last war they proved extremely profitable enterprises, thanks to their ability to run at very high load factors and, in addition, carry out profitable contracts for special services rendered to the government. In consequence air transport stocks performed considerably better than the Dow Jones averages during this period.

There is every probability that the same situation would exist in a future war, subject, of course, to special taxation which would presumably be imposed on all industries.

VI. — PROPOSALS FOR THE FUTURE

On the basis of the facts outlined in the preceding survey, we have come to the following conclusions about the air transport industry's current problems and the steps which can and should be taken to cure them.

1. The present capital structure of many airlines appears unsatisfactory for a business subject to as many unpredictable fluctuations as air transport-

tation. The proportion of bank loans and long term funded debt appears far too high in some cases.

Financing of flight equipment purchases through long term debt seems unwise. The maturities of bonds and debentures should not, in our opinion, run substantially beyond the time when the assets purchased with funds received from the sale of these securities are fully depreciated.

2. The air transport industry is in need of substantial amounts of equity capital within the near future to refund bank loans and long term debt, provide funds for moderate flight and ground equipment purchases and increase working capital.

3. The industry's ability to raise this new capital will depend on (1) the state of the securities market and (2) the assurance that the airlines will have substantial earning power over the next few years and real growth possibilities over the long term future.

4. The credit of the airlines is in the hands of the Civil Aeronautics Board and the Congress. The industry has made real progress in reducing its high operating costs resulting from post-war over-expansion. However, with the low mail rates which the major lines are now receiving it appears almost impossible for many companies to achieve adequate earnings at current levels of traffic. For major lines increases in traffic in the near future seem unlikely.

The restoration of substantial earning power in the near term future will therefore require a major increase in air mail rates by the Civil Aeronautics Board and the appropriation by the Congress of the sums necessary to pay these rates.

The policies established in the Civil Aeronautics Act and the importance of air transportation to the national defense fully justify such increases. Past expenditures on air mail have been almost wholly offset by revenues from stamp sales. Fortunately recent decisions of the CAB in the case of the smaller lines indicate that it is embarking on a more liberal mail rate policy.

5. There should also be some assurance that, once set, the higher rates will be left in effect long enough to permit the airlines to restore their previous losses and build up adequate reserves. The Civil Aeronautics Board's previous error of drastically reducing mail rates in anticipation of a high level of traffic and earnings, which did not materialize, must not be repeated.

It must be remembered that any recession in general business might easily wipe out the modest earning power which higher prices would establish.

6. Increased regularity and safety are necessary to ensure the long term growth of the industry and reduce its dependence on subsidy. To this end the government's fifteen-year program for modernizing our system of radio aids to navigation should be carried out as rapidly as possible. Real all-weather flying combined with a safety record equal to that of scheduled surface transportation depends on the success of this program. The facilities it contemplates will be of inestimable value to national defense.

7. The most modern and efficient transport aircraft are necessary for our national defense, as well as for the progress of the air transport industry. Witness the work of the Air Transport Command in the last war and the Berlin air lift today.

New types of transport aircraft must be developed whenever advances in the art of aviation make it probable that major improvements in performance and economy over existing types are possible. Federal financial assistance will be necessary for the development of new prototypes and was recom-

mended by the President's Air Policy Commission and the Congressional Aviation Policy Board. The next Congress should enact legislation necessary to assure government financed prototype development.

8. A truly sound air transport system cannot be achieved without major revision of the present network to substantially reduce destructive competition and reconstitute, through merger or otherwise, those systems which are so inherently weak as to in all probability require heavy subsidy for a long time to come. The competitive urge must be retained if air transportation is to continue the rapid technical advance which is an essential basis for its economic progress, but is should be possible to retain the spur of competition in a reorganized national route structure which would comprise a much smaller number of individual systems than at present.

A serious attempt should be made to achieve the reorganization of the route pattern through voluntary mergers. If this cannot be accomplished within a reasonable time—and the failure of the I.C.C. to achieve a similar reorganization of the railroads in the past thirty years indicates that it probably cannot—the Congress should give the Civil Aeronautics Board power to require the necessary reorganizations.

9. Equipment trust financing, the creation of corporations to lease flight equipment, or R.F.C. loans for equipment purchases or working capital, will not solve the airlines' basic problem of inadequate earnings. These types of financing derive their worth from the basic credit of the airline concerned.

However, when the industry's basic credit problem is solved, equipment trust financing or aircraft leasing corporations may prove useful financing tools. The program now under way for eliminating legal obstacles to such types of financing should be accelerated. Federal recording and the elimination of tort liability has been accomplished. Amendment of the Bankruptcy Act to give the holder of equipment trust certificates the right of immediate repossession in case of bankruptcy should be carried out as soon as possible.

10. There is too much competition among certificated carriers for the volume of traffic which now exists. The Board should take prompt action against illegal competition by allegedly non-scheduled carriers which are really operating scheduled service. Such services should also be strictly policed from the safety standpoint in accordance with the provisions of the Civil Aeronautics Act.

11. The Civil Aeronautics Board should not, in our opinion, be given the power to regulate the issuance of airline securities. The determination of the form and extent of financing is essentially a management function to which the investment banking industry can make a valuable contribution.

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