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A STUDY OF THE AIRLINE INDUSTRY'S
FINANCIAL PROBLEMS

by

Thomas H. Berge

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An Independent Study
Submitted to the Faculty
of the
University of North Dakota
in partial fulfillment of the requirements
for the Degree of
Master of Science

Grand Forks, North Dakota

June
1970



This Independent Study submitted by Thomas Berge in partial fulfillment for the Degree of Master of Science from the University of North Dakota is hereby approved by the Faculty Advisor under whom the work has been done.

Ronald L. Ford

A STUDY OF THE AIRLINE INDUSTRY'S FINANCIAL PROBLEMS

Little did the Wright Brothers know what they were starting when they launched their aircraft on December 17, 1903 at Kitty Hawk. Their first flight went 120 feet attaining a maximum altitude of ten feet. Today that entire flight could have taken place inside the Boeing 747 whose interior length is 225 feet with a ceiling height of nineteen feet.

Commerical aviation had an unusually rapid period of growth after World War II with the return to civilian life of military pilots and the retirement of a large number of war surplus cargo planes. Fledgling air carriers were able to purchase these planes at bargain prices and thus able to stake their claim to an interest in the rapidly growing air transport industry.

Flying Tiger is a prime example. After starting on a shoestring shortly after the Second World War their annual earnings have grown steadily until they reached a high in 1967 of over 87 million dollars. Not all airlines have fared as well, in fact, even Flying Tiger is currently plagued with financial difficulties. This situation is not unique to this airline as the whole industry is facing financial problems of a critical nature. Many carriers appear to have overextended themselves, and in some cases, did not have sufficient net income after operating expenses to cover interest expense on

their debt in 1968. Other airlines have had to resort to use of various accounting techniques to produce a net income during that year, but federal regulations limit the accounting options available to airline management. A discussion of airline accounting and financial management should begin with an analysis of federal regulation of the industry. CAB regulations for airline accounting follow generally accepted accounting principles, however, special treatment is required for certain items. Direct guidelines are provided in the manual "Uniform System of Accounts and Reports for Certified Air Carriers" which is published under the provisions of the Federal Aviation Act of 1958. The authority of the Board is stated as follows:

The Board shall prescribe the forms of any and all accounts, records, and memoranda to be kept by air carriers, including the account, records, and memoranda of the movement of traffic, as well as the receipts and expenditures of money, and the length of time such accounts shall be preserved: and it shall be unlawful for air carriers to keep any accounts, records, or memoranda other than those prescribed by the Board.

In addition the CAB has authority to conduct unscheduled inspections of the airline operations and accounts.

The Board shall at all times have access to all lands, buildings and equipment of any carriers and to all accounts, records, and memoranda, including all documents, papers, and correspondence, now or hereafter existing and kept or required to be kept by the air carrier...¹

Under this system of accounting all airlines follow a uniform procedure for assigning account titles as well as numbering

¹Civil Aeronautics Board. Uniform System of Accounts and Reports for Certified Air Carriers. June 1, 1961, Section 01, pp. vii.

them. Even though the regulation may appear quite restrictive, it does allow some prerogative on the part of accounting personnel. For instance, the size of the general ledger account may be extended to provide appropriate accounting for the airline needs. Under the account entitled, Aircraft and Traffic Handling Personnel, Braniff has twenty-seven subsidiary accounts. If the manual in some way prevents the airline from properly accounting for a transaction they may request a waiver from the CAB. The request should show that the waiver is in the public interest and will correct the existing peculiarity.

In establishing its accounting guidelines the Civil Aeronautics Board has designated three groups of airlines according to size. They are appropriately called Group I, Group II, and Group III Route Air Carriers. Most accounting provisions are the same for all three groups, however, there are some differences in the number of nominal accounts to be used. Group I carriers include smaller airlines such as Chicago Helicopter Airways, and Alaska Coastal Airlines. Group II is comprised of the medium sized air carriers of which North Central and Frontier are typical. Group III carriers are the well-known giants such as United, American, TWA, and Pan American.

The accounting system is designed to maintain a large degree of comparability, however, the airlines are allowed a sufficient amount of flexibility in computing depreciation, in the use of investment tax credits, and in the amortization

of intangible costs to make a comparison of the published income statement very difficult. An article which appeared in the May 12, 1969 issue of "American Aviation" goes even further. It states:

The airlines are required to maintain their accounts as prescribed by the CAB's Uniform System of Accounts. Yet, within these prescribed "Uniform" regulations, there remains considerable latitude for accounting policies. In fact there are so many varieties practiced under the Uniform System of Accounts that the individual airline reports are simply not comparable.²

The article went on to describe differences in treatment of depreciation, conversion costs,³ and investment tax credits. It is evident, while trying to establish uniformity in accounting systems, the CAB has failed in these critical areas.

The failure to perfectly standardize accounting among the individual carriers is not necessarily bad as each company must retain some autonomy, and they must have a degree of flexibility to remain freely competitive. If government regulatory powers increased beyond this point they would become an excessive infringement upon management prerogative, taking away the few options an airline manager does have at his disposal to maintain his companies competitive edge.

This disformity between individual airline financial statements is evident in both the balance sheet and the income

²Selig Altschul, "Fare Boost Should Help 69 Earnings," American Aviation, May 12, pp. 41-56.

³Conversion costs may also be called introductory costs, and are incurred when new aircraft are added to the inventory. They include items such as training of pilots and mechanics on the new systems.

statements. In spite of the specific disparities in the manner in which some account balances are determined the presentation of both the balance sheet and the income statement must be according to the methods described in the manual. These statements must be submitted quarterly with interim reports monthly and a final summation at the end of the calendar year, which is their accounting period. The balance sheet and the income statement, however, are only two among forty-eight different reports that must be filed with the Civil Aeronautics Board. Some of these reports must be filed more than once during the year, which when all are totaled, make approximately 350 reports that each airline must file annually. In addition, detailed statements of accounting procedure concerning specific areas such as accrual of self-insurance and the computation of depreciation must be filed and approved by the CAB. A total of fourteen such procedural statements must be submitted. All schedules and statements must be written on a specific type, size, grade and color of paper.

These financial statements are designed to cover all activities in which the airlines may be involved. The profit and loss statement is prepared under the all-inclusive theory as it is to include both income from normal operations, with adjustments, and extraordinary items. To eliminate the subjective element in deciding what is and is not to be considered an extraordinary item the System provides the following definition: "As a standard practice, an extraordinary

item to be classified as special must exceed one-half of one per cent of the twelve month to date total operating revenues or total operation expense depending upon the nature of the item."⁴ Along with the standard financial statements, most airlines are enclosing a funds flow which generally follows the working capital format as part of their annual reports. There is nothing in the Uniform System of Accounts that specifies the use of this statement or its format.

The description of individual accounts begins with current assets. Accounts not mentioned can be assumed to be treated in the conventional manner and are sufficiently unique to require special attention.

The inventory items are to be broken down into three separate accounts: Flight Equipment-Expendable Parts, Flight Equipment-Rotable Parts, and Flight Equipment-Miscellaneous Material and Supplies. In most cases, however, Flight Equipment-Rotable Parts is considered part of the Property and Equipment Accounts. All costs involved in getting the inventory in place are to be considered a cost of the inventory if these costs can be directly identified with the particular item. If the cost cannot be assigned to a specific inventory item, it should be charged to an intangible asset account entitled Other Deferred Charges. This amount may then be cleared by allocating it to the parts cost as used. If it will not materially affect the account balance, the cost of getting the inventory in place may be charged directly to an

⁴CAB, Uniform System of Accounts, p. 17.

appropriate expense account.

The Expendable Parts Inventory is comprised of items such as seals, hydraulic lines, transistors, tires, bearings, and other non-repairable items. Because of their physical characteristics certain items have a limited shelf life due to deterioration. This is especially true of hydraulic and engine "O" ring seals. The manufacturer usually prints on the package a date by which the item should be used, and if not used by that date it should be destroyed. In other situations parts carried in the inventory are made obsolete by modification or complete retirement of the aircraft. In either case all obsolete parts must be thrown out. To match expenses with revenues a contra account, Obsolescence and Deterioration Reserves-Expendable Parts, is maintained. This reserve is to be established for each part group in the inventory by expensing each year the estimated cost of Obsolescence and Deterioration of Expendable Parts. As the parts become unuseable their cost is charged against the reserve account. Procedures for determining the accrual must be filed with the Civil Aeronautics Board.

The Miscellaneous Materials and Supplies Inventory includes such items as office supplies, shop supplies, service supplies, fuels and motor oils, and food supplies. In this case, though, a contra account for inventory valuation is not maintained. Items in this account are expensed as used.

It is very important to the maintenance operation that the inventory be well stocked at all times. Having to

delay repair of a 200,000 dollar engine for want of a 50 cent seal is more than the airline can afford. Trans World Airlines stocks approximately 125,000 different parts and they expect to stock an additional 130,000 parts with advent of the Boeing 747. Even with their growing operation they have been able to maintain a remarkable fill rate on maintenance requests of 99.70%.⁵

The accounting procedures for Property and Equipment Accounts are divided into operating and non-operating areas. The operating accounts concern all items used in air transportation and connected services. The non-operating accounts are for property not included in the transportation division or other non-transport divisions. This could include equipment which was used for transportation but has since been retired and is now awaiting disposition.

The cost of an airplane parked at the local airport is not considered one item, but it is actually several different end items which are accounted for separately. First, there are the engines of which initial cost and cost of overhaul and repair are compiled distinct from airframe costs. The airframe, however, is to include the cost of brackets used to mount the engine, but accessories on the engine used to power airframe systems such as generators and hydraulic pumps are to be included as part of the engine. Also distinct from airframe costs are some communication and navigational

⁵James Skinner, "A Perfectionist Retires," American Aviation, March 31, 1969, p. 42

equipment. If the aircraft is propeller driven the propeller makes up a separate account. All of these items the engine, airframe, communication and navigational equipment, and the propeller are assigned individual serial numbers by the manufacturer which makes accounting for them quite easy. If the aircraft is purchased as a unit from the manufacturer the cost of each sub-system, or end item, must be prorated. Any improvements, betterments, or major repairs must be capitalized. Also any improvements in leased equipment must be carried in the books as an asset in the Property and Equipment Section of the balance sheet. A valuation account is then set up to record the amortization of the cost.

The account, Flight Equipment-Rotable Parts and Assemblies, is composed of all repairable parts not installed in the aircraft or engine. This includes such items as constant speed drives, generators, hydraulic pumps, air conditioning assemblies and many more repairable assemblies. These parts are built to last the life of the aircraft but will require repair from time to time. The Uniform System of Accounts requires Group II and III Air Carriers to further subdivide the Rotable Parts Inventory into Airframe Rotable Parts, Engine Rotable Parts, and Other Rotable Parts.

The general rule in accounting for the purchase of flight equipment is to record the asset at the cost of acquisition, however, there are some exceptions. One already mentioned is the prorating of a single purchase to several accounts if the cost applies to several end items. The second exception involves the acquisition of property from

another airline through consolidation, merger, or reorganization. In that case property is to be recorded at the same cost recorded on the books of the previous company. The amount of depreciation should likewise be recorded at its former amount. The difference between acquisition price and the book value should be recorded in the account, Property Acquisition Adjustment, which will then be amortized to an appropriate expense account. The airline must file a statement with the CAB explaining their procedure for write off of this account.

Depreciation methods used by the airlines are as varied as there are airlines. For this single reason it is difficult to make a direct comparison of one airline with another. The difference arises with the method used in computing depreciation, the estimation of service life of the item, and the estimation of residual value. Almost all the airlines use an accelerated rate for income tax purposes and a straight rate for book purposes. One of the few exceptions to be found was Ozark Airlines which used the same method for both book and tax purposes. This, it seems, is because Ozark has been operating at a loss and there has been no need to reduce income for tax purposes. Each carrier must file a statement with the CAB fully describing the method used in arriving at their depreciation computation. This statement applies only to the method used for book purposes and not for income tax purposes. As in any other business, the airlines are to make a careful study of their

depreciable property to determine its useful life and its residual value in order to properly determine depreciation rates. During 1968 several airlines adjusted their depreciation rates to improve their book income.⁶ This abnormal procedure was caused by a reduction in revenues and an increase in operating expenses. Prior to this adjustment the average depreciable life of the flight equipment was approximately twelve years for the industry. The industry norm is now a 14 year life with a 10 per cent residual value for book purposes, and an 8 year life with a 5 per cent residual value for tax purposes.⁷

An area that requires special attention is the treatment of airframe and engine maintenance costs which may be divided into daily maintenance expenses and overhaul expenses. Some minor, and sometimes, major malfunctions can be expected on almost every flight. It may be just an instrument indicator that fluctuates slightly, or it may be an engine that consumes too much oil, or it may even be a landing gear that will not retract. In any case these are typical unscheduled daily maintenance expenses resulting from normal operation which are expensed directly against current revenue. Overhaul costs, however, are a result of periodic inspections

⁶Altschul, '69 Earnings, pp. 41-56.

⁷Economics and Finance Department, Conference of Major Airlines and Air Transport Association Staff, "Economic Review and Financial Outlook 1969-1973," June 1969, Slide 11, p. 1.

directed by Civil Air Regulations. These inspections are intended to be thorough and complete, designed to repair the aircraft and engine to as near new as possible. A good inspection at this point will result in lower unscheduled maintenance expense between overhauls.

In deciding how to treat overhaul costs the airlines must attempt to match costs with revenues, choosing either the direct expense or accrual method which are allowed by the Civil Aeronautics Board. The method chosen must be applied consistently from one accounting period to the next, changing only with the CAB approval. The non-accrual method requires overhaul costs be directly expensed to current revenues, but only if it will not result in a distortion of income between account periods. To use this system the airline must prove to CAB authorities there will not be peaks and valleys in maintenance expenses which will inappropriately charge costs of past periods to current income. On March 29, 1969 Eastern Airlines⁸ made such a request to the CAB, which was predicted on a forementioned requirement. They maintain their expense levels will not be distorted through adoption of this system.

The second method of accounting for overhaul costs requires the accrual of estimated overhaul expenses in an account titled, Flight Equipment Air Worthiness Reserves, which is classified as a contra asset Property and Equipment

⁸E. E. Hahn, Assist Controller for Eastern Airlines. Letter to Mr. Warner H. Hord, Director Bureau of Accounts and Statistics, CAB.

account. The accrual rate is based on estimated overhaul costs for the coming period divided by estimated flying hours. This calculation may be based on either a unit basis or group basis, much like depreciation, and also like depreciation, the rate may also be treated differently for income tax purposes, in other words, accelerated. As the actual overhaul cost accumulates it is charged against Air Worthiness Reserves, and likewise, this Reserve should also be used for the accrual and write off of overhaul expenses on leased aircraft. At the end of each accounting period the rate must be recalculated based on forecasted overhauls for the next period. As one of their procedural statements the airlines must file a form with the CAB specifically describing their treatment of overhaul costs. If directly expensed the airline must justify their action.

...the statement shall indicate separately the rates at which the direct cost and maintenance burden are being accumulated; whether provisions are effected on a unit or group basis; the hours over which reserves or liabilities are being accumulated; and whether differences in financial accounting and tax practices for overhaul are deferred as a consistent practice. The statement shall also provide a factual demonstration of the overhaul cost and hours realized between overhauls over previous representative periods or other factors upon which the rates are based.⁹

In theory the accrual method should provide for better matching of costs and revenues as overhaul expenses are matched against flying hours. As a disadvantage to management it will tend to

⁹U.S., Civil Aeronautics Board, Uniform System of Accounts and Reports for Certified Air Carriers, (U.S. Government Printing Office, June 1, 1961), Sec. 5-4 (G).

to cover up peaks and valleys in the overhaul schedule. During one period there may be twenty engines overhauled but during the next there could be only five. In this case the maintenance expense appearing on the income statement will only reflect the rate times the number of flying hours and not the actual expenses of overhaul. Management must be very careful to note the scheduling of their aircraft for overhaul as failure to do so may result in extensive overtime during peak periods and excessive idleness during slack periods.

The use of the reserve method of accounting for overhaul expenses is not extremely popular as only five of the eleven major air carriers use it in one form or another (See Figure 1). When used, however, the Uniform System of Accounts is on untendable ground as it has classified Air Worthiness Reserves as a contra asset account, much like depreciation. Instead, it should be classified as a current liability (accrued expenses) because as flying hours accumulate, a liability for overhaul of the aircraft and engines has also accumulated. When the aircraft is retired the amount in the Air Worthiness Reserve applicable to that aircraft must also be cleared, just as depreciation is cleared.

The remainder of the property and equipment accounts are accounted for in a conventional manner except for construction work in progress, which is sort of a catch all. In addition to including construction work in progress on buildings, it also includes accumulated cost of uncompleted overhauls on the engine and airframe. The airline may also use

this account to record acquisition of new property or equipment that has not yet been put into service. When the item is ready for operation it is transferred to the appropriate property account.

OVERHAUL RESERVES
DOMESTIC TRUNK LINE ACCOUNTING PRACTICES

<u>Carrier</u>	<u>Airframe</u>	<u>Engine</u>
American	No	No
Braniff	No	No
Continental	Yes	Yes
Delta	No	No
Eastern	Yes	Yes
National	Yes	Yes
Northeast	No	Yes
Northwest	No	No
TWA	No	No
United	No	No
Western	Yes	Yes
<u>Summary</u>	36.4% Yes	45.4% Yes

Yes indicates the airline uses the Flight Equipment Air Worthiness Reserves.

(Figure 1)¹⁰

The methods used in accounting for deferred charges affords company management a golden opportunity to manipulate income. They may expense these costs directly during the year incurred or amortize it over several accounting periods.

¹⁰Letter from E. E. Hahn, to Mr. Warner H. Hord, Exhibit III.

The CAB provides no firm guidelines but only requires Board approval on the method the airline chooses to use. Deferred charges include such items as advances to aircraft manufacturers for research and development, conversion costs of converting from one aircraft model to another, and pre-operating costs incurred in opening up a new route. Probably the most accepted accounting technique is to amortize the expense over several accounting periods, but unfortunately the best accounting method is not the sole criteria used in making the decision. In many cases the decision is based mainly on the results sought on the current years income statement. Eastern airlines, as an example, had a particularly difficult year in 1968 when hit hard by increased expenses. Prior to that year they had expensed directly all costs involved in the introduction of new model aircraft to the year incurred, but during 1968 they decided to reverse the policy and now amortize this expense over a five year period.¹¹ As a result they were able to show a higher net income and earnings per share, both very important to the security analyst, for that year. This area again points out the inconsistencies which may arise between accounting methods used by the various airlines, and thus the difficulties which may arise when comparing their financial statements.

The Uniform System of Accounts is not detailed on the treatment of liability items, except by account titles and

¹¹Altschul, "'69 Earnings," pp. 41-56.

numbers. Most are treated in a conventional manner, however, long term liabilities are currently a very critical problem area in the operation of the airline industry and bear extensive investigation.

The airline industry is expanding rapidly, developing new routes and acquiring new aircraft. United Airlines alone acquired 99 new planes during 1968.¹² In order to stay competitive the industry must continue expanding in the future.

Projected expenditures for flight equipment (1969-1973) are 10.3 billion dollars or an average of about 2 billion annually. Of the total projected expenditures of 10.3 billion dollars firm orders represent 61 per cent, options represent 17 per cent, and planned aircraft acquisitions represent 23 per cent. It should be noted, however, that nearly half of the planned aircraft acquisitions are in 1973. Total projected capital expenditures reached a high of 2.8 billion dollars in 1973. Planned expenditures for ground support equipment over the five years are 2.2 billion dollars and represent 17.3 per cent of the total projected capital expenditures. The consistently high percentage of ground equipment expenditures result from the planned introduction of 339 large bodied, high capacity aircraft during the forecast period as well as a general improvement in other ground facilities and equipment.¹³

To finance this planned expansion extensive outside funds will be needed. Forecasts range from 3.2 billion to 10.5 billion to meet the estimated need of 12.5 billion dollars for capital expansion. The large estimate includes an adjustment for inflation which must be considered in order to present a realistic picture of the true requirements.

¹²United Airlines Annual Report, 1968, pp.8.

¹³Economics and Finance Department. Outlook 1969-1973, slide 9, p. 1.

Currently the debt-equity ratio weighs heavily on the side of debt for most airlines.¹⁴ Flying Tiger, as an example, for the year ending December 31, 1968 had a ratio of 78 per cent debt to 22 per cent equity. They barely have adequate fixed assets to cover their long term debt, the ratio being 1 dollar of property and equipment to 90 cents of debt. This ratio excludes an issue of 25 million dollars of subordinated notes which have been approved for issue in 1969. Excluding other changes in the equity position they could conceivably end 1969 with a debt to equity ratio of 4 to 1, or in other words, 80 per cent of their capital structure will be debt. Flying Tiger's current poor financial position is a direct result of use of out moded turbo prop aircraft while competitors were slowly converting to jets. Thus, in 1968 when receipts from government contracts, their prime source of revenue, fell by 20 per cent, other carriers, using faster and more economical jets, were gaining a larger share of the business. To correct this problem they were forced to begin a full scale conversion to jet engine aircraft and as a result increased their total liabilities by 32 million dollars, a 33 1/3 per cent increase. The increased interest expense as result of the expanded debt position is also reflected in the financial statements. In 1968 interest requirements were earned by only 1.04 times as compared to

¹⁴The debt-equity ratio is the relationship of the equities of the stockholder group and the creditor group in the business assets.

14 times in 1967.¹⁵ In addition to the increased interest expense the company was also forced to accept a 5.6 million dollar loss on the sale of their turbo-prop planes, resulting in an overall loss after extraordinary items of 5.27 million dollars. This is compared to 6.78 million dollar income in 1967, a difference of 12 million.¹⁶

Not only are large airlines being hit hard by expansion financing, but the medium sized carriers are also suffering considerable financial difficulty of which Ozark Airlines is a prime example. Until 1968 they relied heavily on conventional propeller driven aircraft as their primary model, but during that year conversion to modern jet planes was undertaken by increasing their long term debt by 10 million dollars. Even prior to assuming the additional debt they were in financial difficulties. Their capital structure for 1967 consisted of 81.5 per cent debt and 18.5 per cent stockholders equity, and by the end of 1968 total liabilities had risen to 83 per cent of the capital structure and the balance stockholder equity. In both years they showed a loss and were not able to cover interest expense before taxes.

¹⁵The number of times that earnings cover interest expense is calculated by dividing net income before any charges for interest expense or income taxes by the interest expense for the period.

¹⁶The Flying Tiger Line Inc. Annual Report, 1968 1967-1968 Comparative Income Statement.

¹⁷Braniff Airways, Inc. 1968 Annual Report. Statement of Source and Application of Funds.

Smaller certified air carriers such as Ozark Airlines are subsidized by the government. The subsidy program is administered by the CAB, as directed by the Federal Aviation Act of 1958, principally to keep the airlines operational both for the promotion of commerce and in the national interest. Congress, in passing the Civil Aeronautics Act of 1938 and updating it with the Federal Aviation Act of 1958, believed it a good policy of national defense to have a large pool of pilots and aircraft who could be pressed into service in a national emergency, should the need arise. Congress also intended subsidy of local airlines to provide air service to smaller communities that would not normally have air service. Consequently, people living in towns like Devils Lake, North Dakota or Bemidji, Minnesota now have regular air service to larger metropolitan areas.

The discussion so far has centered around airlines whose financial planning and foresight have not been adequate, and as a result, are currently suffering financial problems. Braniff Airlines, like Flying Tiger and Ozark, also have a top heavy debt situation, but they seem to be on the road to recovery. In fact, they probably have one year jump on the two airlines previously discussed. In 1967 Braniff had a very sizeable increase in their debt when they purchased 97.9 million dollars of property and equipment, while in 1968 they spent only 2.7 million on the same item.¹⁷ By the end of 1967 debt accounted for 81 per cent of the equity in the capital

¹⁷Braniff Airways, Inc. 1968 Annual Report. Statement of Source and Application of Funds.

structure, but by the end of 1968 total liabilities had decreased to 79 per cent of the equity. In 1967 Braniff was able to earn its interest requirements by only 1.3 times, but in 1968 their earnings, prior to deduction for income taxes and interest expense, were twice the interest requirements. What makes Braniff's performance particularly unique is that out of the other eleven major U.S. airlines¹⁸ only one showed an increase in earnings from 1967 to 1968. Braniff's earnings increased by 121.5 per cent while the others dropped off on the average of 31.6 per cent. During the same period industry wide long term debt increased by 880 million dollars, or 26.8 per cent, and interest payments were from 114 million dollars in 1967 to 165 million in 1968.¹⁹

Not all airlines, however, have been forced into heavy debt situation in converting to an all jet fleet. Northwest Airlines is on the other end of the spectrum having planned their conversion-expansion programs and long term debt in a manner which would not over extend their credit position. At the end of 1967 their fleet was made up of 72 jet, 12 turbo prop, and 2 piston powered aircraft with a debt-equity ratio of 45 per cent debt and 55 per cent stockholder equity. In 1968 their total debt increased by 85 million

¹⁸These eleven are: American Continental, Delta, Eastern, National, Northeast, Northwest, Pan American, Trans World, United, and Western.

¹⁹Selig Altschul, "Trunk Net Income Decreases 36 Per Cent in '68," American Aviation, April 14, 1969, p. 60.

²⁰Northwest, "Annual Report," p. 11.

dollars, using the funds to expand their jet fleet by 17 aircraft.²⁰ By the end of that year their total debt had increased to 51 per cent of their capital structure which was still below the industry average of 60 per cent debt and 40 per cent equity.²¹

Northwest Airlines' financial condition continues to rank among the strongest in the airline industry.... Outstanding debt at year end amounted to \$163,000,000. During the year, Northwest's bank credit arrangements were revised to provide a maximum revolving credit of \$290,000,000.... Under an existing arrangement with 15 banks, the company has outstanding \$40,000,000.... Under a new credit agreement with 24 banks, an additional maximum revolving credit of \$250,000,000 is provided, of which the company has borrowed \$92,000,000. This agreement reduces to \$230,000,000 by October 1, 1972, to \$210,000,000 by October 1, 1973, to \$90,000,000 by October 1, 1974, and terminates July 1, 1975.... The company has on order from the McDonnell Douglas Corporation and the Boeing Company, 48 additional jet aircraft which, with spare engines, will require expenditures of \$653,000,000. These aircraft are scheduled for delivery in 1969 through 1973.²²

Further indication of their strong financial position is shown in their earnings and interest expense relationship. In 1967 Northwest earned, before deduction for interest expense and income tax, 28 times more than the amount required for interest expense, and in 1968 their pre-interest and tax earnings were 25 times greater than interest expense. The continued management of their debt situation has placed them in a commanding position, in respect to other airlines, for

²⁰Northwest Orient Airlines 1968 Annual Report, Northwest Airlines Fleet. p. 17.

²¹Economics and Finance Dept., Outlook 1969-1970, Slide 12, p. 2.

²²Northwest, "Annual Report," p. 13.

expansion and procurement of the latest technological innovations. They have been able to maintain a good debt-equity ratio while converting to an all jet fleet.

Northwest Airlines' source of credit funds is typical of the industry. Generally most companies will first seek credit from a bank or group of banks, and insurance companies, using their property and equipment as security. In the case of Northwest these sources were sufficient to meet their needs, but many airlines must secure additional sources. United Airlines, for example, needed funds to make the payment to McDonnell Douglas on their order of new DC-10 aircraft. Having already received credit from banks they turned to General Electric who was the sub-contractor for the engines on the DC-10. From General Electric United Airlines was able to negotiate a 20 million dollar loan which was used to make the payment.²³ This unique arrangement may be a future source of credit to be explored by other air carriers in need of funds. Manufacturers such as Pratt and Whitney and General Electric are diversified sufficiently to have available cash reserves which may be available for lending. In addition to the 20 million dollar loan, United Airlines also issued 4½ per cent subordinated convertible debentures in 1968 which provided a source of 34 million dollars. This, however, was only a small portion of their total increase in long term debt, which went from 649 million dollars in 1967 to 833 million dollars in the following year.²⁴ The credit position of

²³United "Annual Report" pp. 16-19.

²⁴Ibid.

United Airlines, though, is indicative of most other airlines whose financial managers must continually be looking to every available source of credit. Even if financing arrangements are made, the stockholders may suffer a heavy dilution of their stock as a result.

Eastern decided last fall (1969) to sell \$80 of convertible debentures to help cover aircraft purchases totaling \$525 million. The debentures are convertible at \$15 per share for a potential of over five million shares. This is equivalent to almost half the 11.8 million shares Eastern now has outstanding and could sharply dilute shareholders' equity if the stock's market price should rise.²⁵

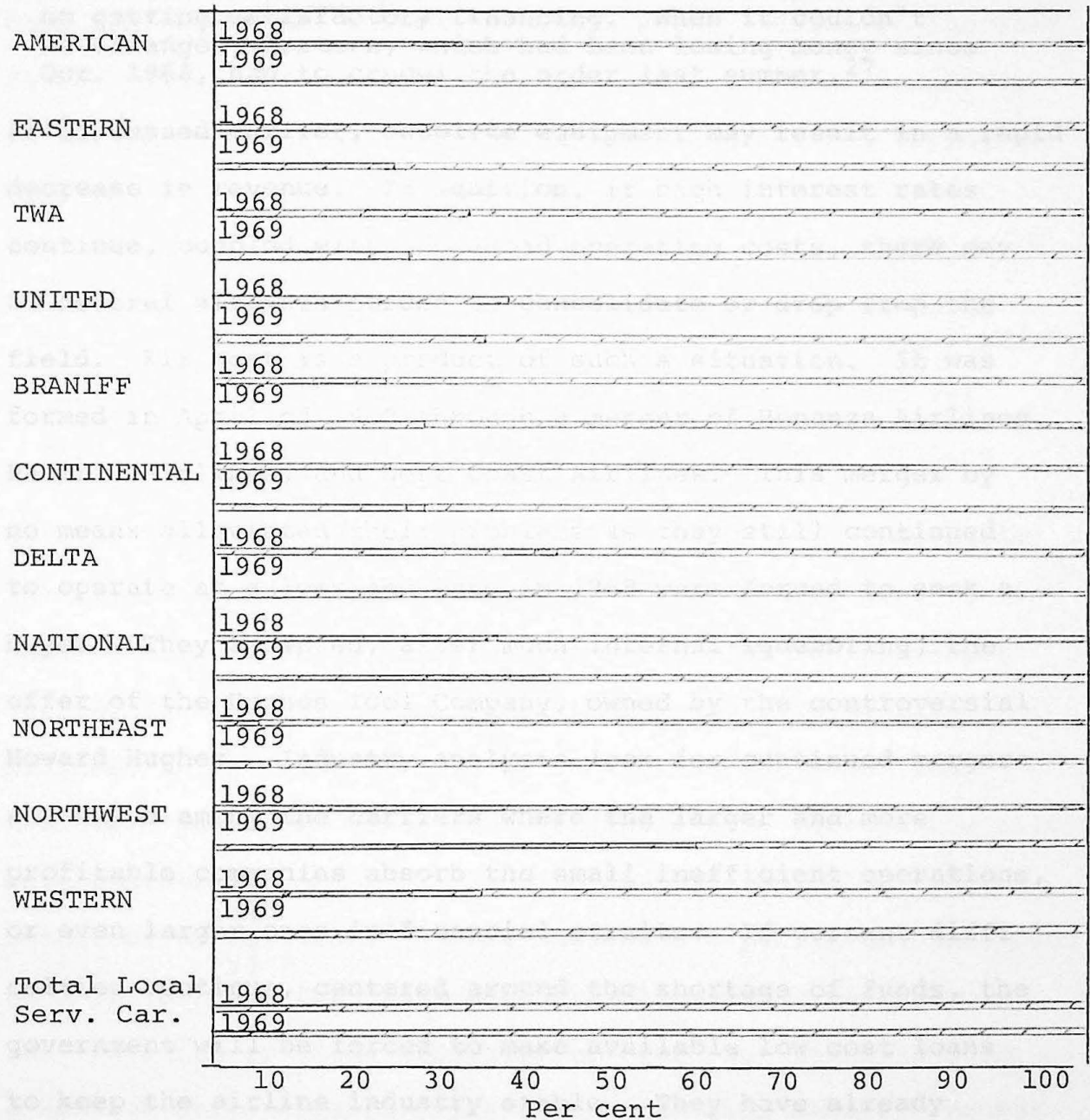
In addition, as the long term debt matures the industry must carefully scrutinize their cash flow position to determine if payment of a cash dividend is practical. In some cases companies will have to issue stock dividends to remain solvent and still keep the stockholders satisfied.

From this brief analysis of the industries long term debt there are indications some airlines are in for difficult times in the near future.²⁶ If the present forecast of expected financial requirements holds during the next five there will be some airlines who will be unable to secure additional credit and will be forced to fall behind competition. Currently, most of the large carriers are ordering the new "jumbo" jets, but the price is so prohibitive that it is bound to cut out prospective buyers.

²⁵W. Stewart Pinkerton Jr., "Hard Times Aloft: Jumbo Jetliners Add to Financial Woes of Airlines," Wall Street Journal, March 6, 1970, p. 1.

²⁶See Figure #2 for comparison of the financial position of the major airlines.

DEBT EQUITY COMPARISON
June 1968 to June 1969





Equity 
Debt 

Figure #2

At least one airline has been unable to get needed funds. In January 1969, Western ordered \$250 million worth of jets from Boeing, including three 747s, five 707s, and four 727s. But the order was conditional on getting satisfactory financing. When it couldn't be arranged, Western, which had been losing money since Oct. 1968, had to cancel the order last summer.²⁷

As discussed earlier, obsolete equipment may result in a rapid decrease in revenue. In addition, if high interest rates continue, coupled with increased operating costs, there may be several airlines forced to consolidate or drop from the field. Air West is a product of such a situation. It was formed in April of 1968 through a merger of Bonanza Airlines, Pacific Airlines, and West Coast Airlines. This merger by no means alleviated their problems as they still continued to operate at a loss and late in 1968 were forced to seek a buyer. They accepted, after much internal squabbling, the offer of the Hughes Tool Company, owned by the controversial Howard Hughes. Industry analysts look for continued mergers and sales among the carriers where the larger and more profitable companies absorb the small inefficient operations, or even larger ones in financial straits. If current difficulties continue, centered around the shortage of funds, the government will be forced to make available low cost loans to keep the airline industry stable. They have already taken similar steps to provide financing to modernize local airports. The air carriers have been able to keep costs from over taking revenues only by implementing new technology whenever and wherever possible. This must continue.

²⁷Pinkerton Jr., "Financial Woes of Airlines," p. 10.

However, this continuing investment in new technology has been seriously questioned in many corners. Congress, for one, has questioned the CAB's recent authorization to increase fares. They feel the airlines have over extended themselves in the purchase of new flight equipment and are now trying to pass the added expense onto the public.

...In an effort to make the proposed new changes acceptable, both TWA and United told the Civil Aeronautics Board that they were planning to reduce some fares while raising others. TWA said it wanted to "correct inequities." United said it was seeking "more consistency" in its tariff structure. TWA did not estimate what effect its proposed fare changes would have on earnings, but United said that its adjustments would produce about 14 million in additional revenue during 1969.²⁸

Much of the financial plight in which airlines are currently involved has been their own making. From January 1966 to December 1968 revenue passenger miles (one paying passenger carried one mile) have increased from 73 billion to 110 billion, an increase of 50.5 per cent. At the same time available passenger miles (one available seat carried one mile) have increased from 127 billion to 208 billion miles, an increase of 64 per cent.²⁹ This indicates capacity has increased at a faster pace than passenger travel, meaning more people are traveling by plane than ever before. But there is also a greater percentage of empty seats than ever before. Management undoubtedly expected a larger portion of the population to use air travel than has materialized and have blamed their difficulties on the failure of passenger travel growth to

²⁸Robert Burkhardt, "The Ballad of the Diminishing Dollar," Holiday, July 1969, p. 62.

²⁹Economics and Finance Dept. Outlook 1969-1970, Slide 1, p. 1.

keep pace with predictions. In 1967 available passenger miles increased by 20.2 per cent while revenue passenger miles increased by only 17.1 per cent. In 1968 available passenger miles increased by 23 per cent and revenue passenger miles showed only a 14.6 per cent increase. In 1969 industry forecasters were predicting a growth rate of 14 per cent in revenue passenger miles, however, they were again disappointed when the actual increase amounted to only 9 per cent. In 1970 the growth rate is expected to drop even further, to about 6 per cent, according to a forecast made by the CAB's Bureau of Economics.³⁰ In an effort to fill vacant seats airline management has authorized special groups (students, military personnel, and families) to fly at reduced fare. This policy has helped increase revenue somewhat, but it has also diluted their earnings per passenger mile. As a result, some airlines are finding it more economical to ground part of its fleet than to continue regular operation.

...Northeast has grounded 11 of its fleet of 41 aircraft, including five Boeing 727s. This represents a reduction of almost 20% in Northeast's seating capacity. In addition, the airline has turned over six of its short routes to Mohawk Airlines, a regional carrier.³¹

Considering this information maybe the congressmen have been right in their criticism of airline expansion. But in making this evaluation one must take into consideration politicians have had traditionally good hindsight and notoriously poor foresight. Had they been in the same position as

³⁰Pinkerton Jr., "Financial Woes Airlines," p. 1.

³¹Ibid.

industry management they undoubtedly would have made the same investment.

The primary motive behind purchase of the latest technological improvements is to reduce operating costs by spreading them over a larger base and thus hoping to earn more revenue per dollar of expense. A secondary reason is an effort to beat the added cost of purchase that inflation brings each year. Taking into consideration price level adjustments, the airline industry consistently has a purchasing power gain each year because of their top heavy debt structure. They pay back their debt at dollars which are worth less then when the liability was incurred.

The primary motive behind the new investment in aircraft deserves further discussion. A comparision of the operating costs during the period 1967-1969 with and without new technology, as shown in Figure #3, will shed light on the reasoning of industry executives. The unit of measurement used in the charts is the available ton mile (ATM), which is the space available to transport one ton one mile. The first chart depicts operating costs at actual level, using the latest technological advances, compared with operating costs per ATM if the improvements had not been implemented. Actual operating costs, starting in 1967 at 19.76 cents per ATM, decreased to approximately 19.10 cents in 1968, but rose slightly in 1969 to about 19.25 cents per ATM. Had not the latest, most economical equipment been in use costs would have soared to 22.35 cents per ATM in 1969. Chart number two shows

MAJOR U.S. AIRLINES-COMPARISON OF OPERATING COSTS
WITH AND WITHOUT NEW TECHNOLOGY 1967-1969³²

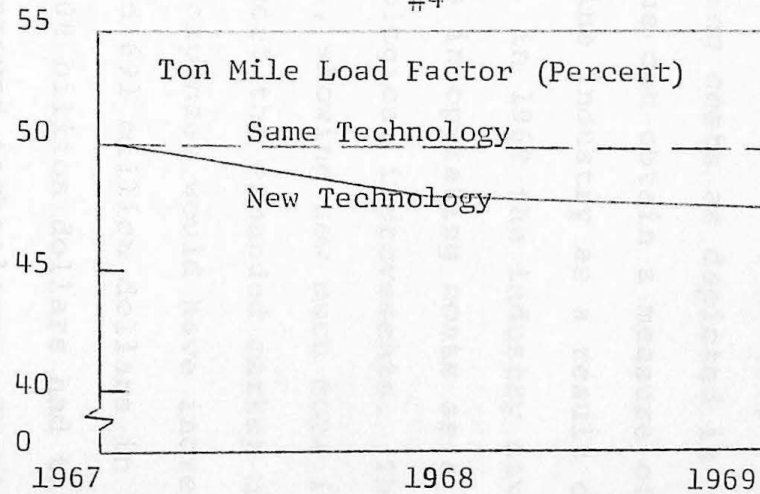
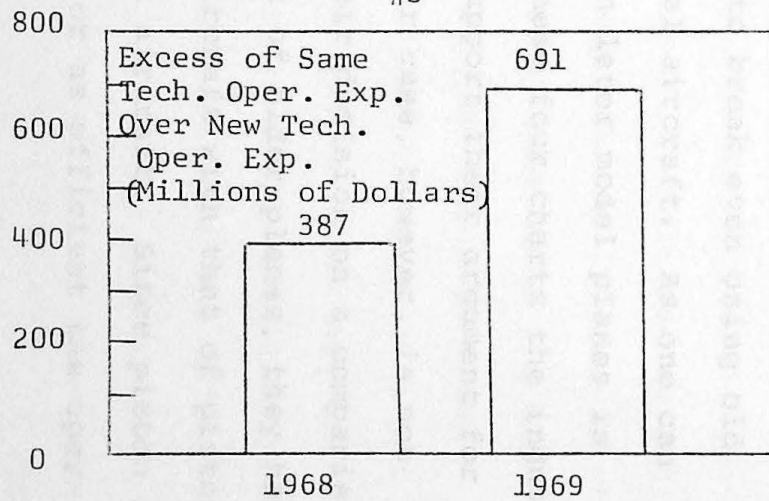
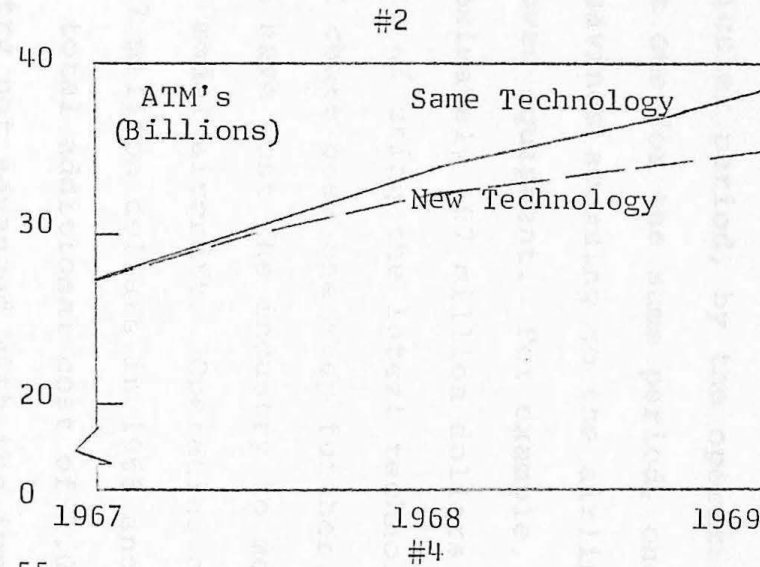
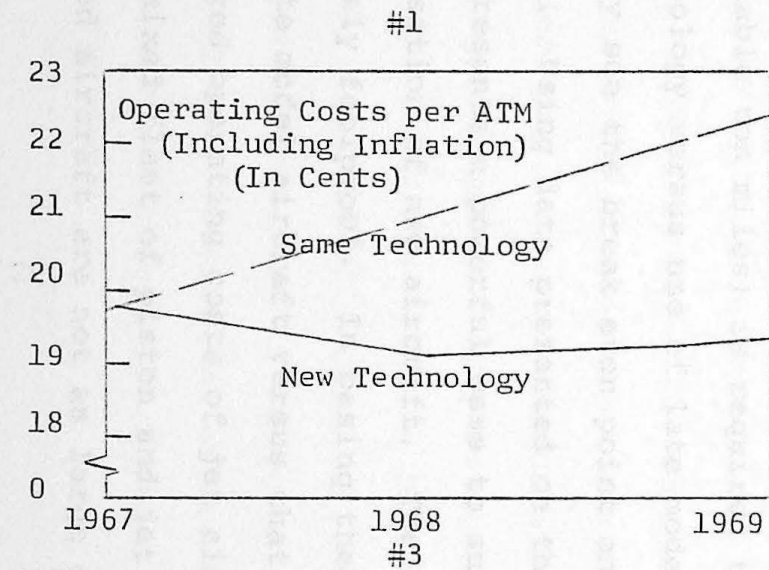


Figure #3

³²Economics and Finance Department, Outlook 1969-1970, Slide 21-A.

the increased available capacity as result of improved aircraft versus the capacity of older model aircraft. By multiplying the available ton miles in chart two, for a particular period, by the operating costs as depicted in chart one for the same period, one can obtain a measure of the savings accruing to the airline industry as a result of improved equipment. For example, in 1969 the industry saved approximately 607 million dollars in operating costs as a result of using the latest technological improvements. The third chart goes one step further, showing how much more it would have cost the industry to meet the expanded market using older model aircraft. Operating expenses would have increased by 387 million dollars in 1968 and 691 million dollars in 1969, for a total additional cost of 1.08 billion dollars had the industry not advanced with the improved technology. Chart four indicates what load factor (revenue ton miles over available ton miles) is required to break even using old technology versus use of late model aircraft. As one can easily see the break even point on later model planes is lower. Using data presented on these four charts the industry presents a powerful case to support their argument for acquisition of new aircraft. Their case, however, is not entirely foolproof. In basing their decision on a comparison of late model aircraft versus that of older planes, they have compared operating costs of jet aircraft with that of piston or a mixed fleet of piston and jet aircraft. Since piston powered aircraft are not as large or as efficient the oper-

ating cost will be substantially greater than that of jets, and will increase the overall operating costs anytime they are part of the fleet. By this year practically every major airline has phased out their piston powered aircraft and can no longer count on reduced cost per ATM by replacing reciprocating engine aircraft with jets.

Regarded as particularly ominous by many executives is the fact that the economic benefits of the increased efficiency of the jet as compared with piston plane are no longer driving operating costs down. Upward pressure of wages and other items are to blame. After eight years of almost uninterrupted decreases, industry unit operating costs, measured by operating expense per seat mile, rose 2% in the fourth quarter of last year. "There's no question this will continue at an accelerated rate," predicts Donald Lloyd Jones, senior vice president for finance at American.³³

After consideration of this fact their case may not seem quite so strong. However, using much the same criteria depicted in Figure #3, the industry has committed itself to an even greater investment in new technology up through 1973. The extent of this investment was discussed earlier in the paper. Figure #4 shows the comparison of estimated operating costs with and without new technology, taking inflation into consideration. Chart 1 indicates operating costs per ATM will increase more rapidly using the same aircraft rather than purchasing new models. In 1973 the expected cost per ATM will be about 21.5 cents if improved aircraft are introduced as planned, but if operations are continued using present equipment and industry can expect the cost per ATM to increase to approximately 25.3 cents. Coupling this saving

³³Pinkerton Jr., "Financial Woes of Airlines," p. 1.

MAJOR U.S. AIRLINES-COMPARISON OF OPERATING COSTS
WITH AND WITHOUT NEW TECHNOLOGY 1969-1970³⁴

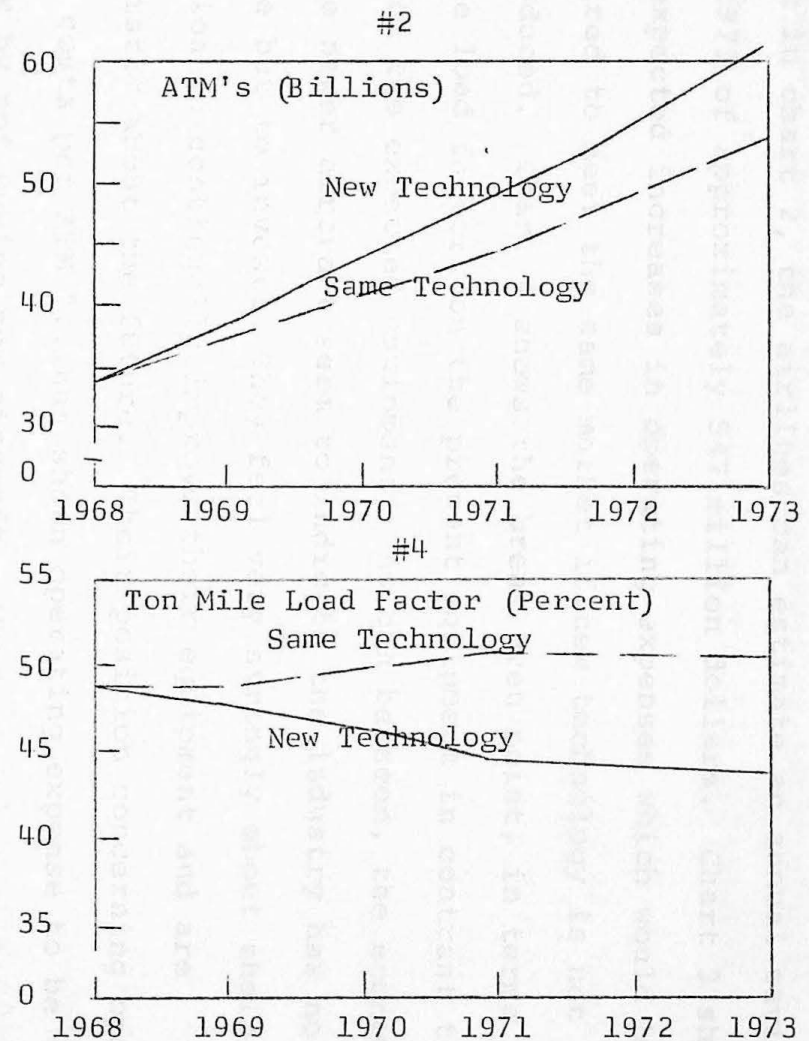
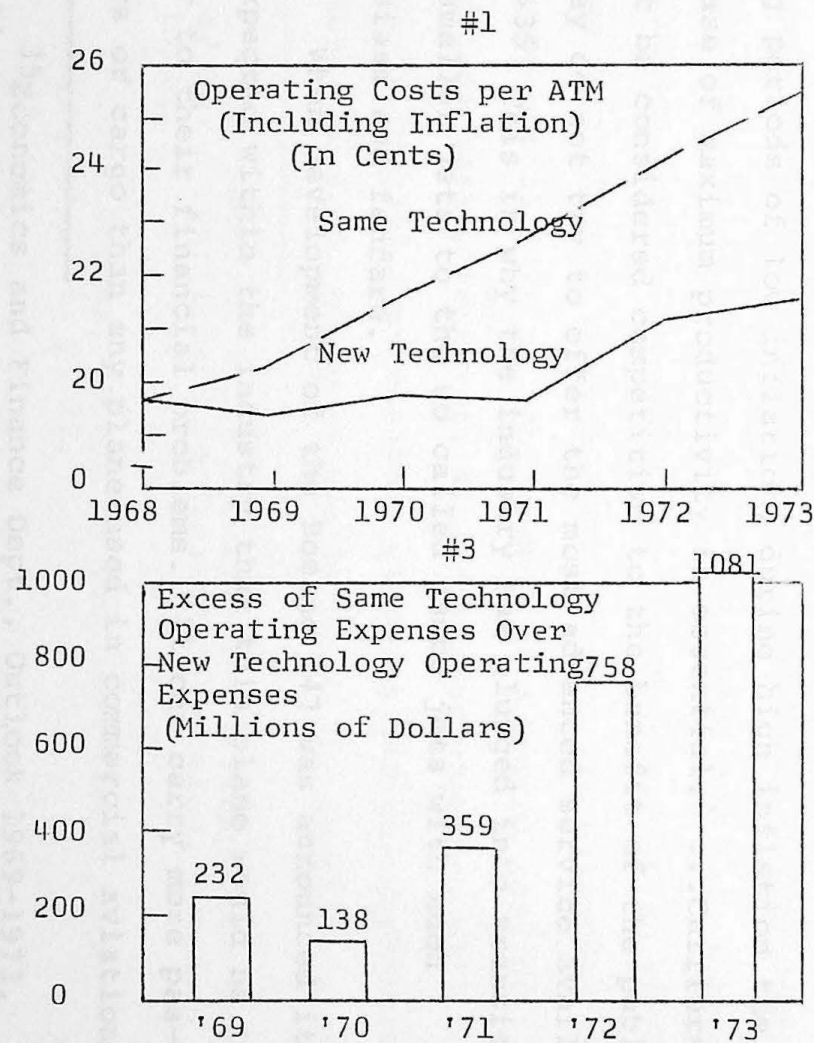


Figure #4

³⁴Economics and Finance Department, Outlook 1969-1973, Slide 21-B.

to date, and the expected expenses per available ton mile are lower. Pan American, in a prospectus announcing the issue of 175 million dollars of convertible debentures, made the following statement:

...Designed for international high density routes, the 747 is expected to contain 362 seats in a mixed first class and economy configuration, 2.7 times as many as the existing Boeing 707-300 series aircraft. It will be able to accommodate 3.3 times as much cargo or mail in its belly compartment and it is expected to be somewhat faster and less expensive to operate per available seat mile than existing B-707-300 or DC-8 jet aircraft. Economic use of the 747, however, requires expanded passenger loads per flight and good utilization of cargo capacity.³⁶

The last sentence of that statement contains a very big if. As mentioned earlier the initial cost of each 747 is approximately 20 million dollars. This does not take into consideration additional expenditures for ground equipment and maintenance facilities needed to support the larger aircraft which are expected to be about 2 billion dollars over the next 4 years.³⁷ To recover this investment and earn a profit the airlines must be extremely cost conscious. In an effort to keep depreciation charges down airlines are extending the estimated useful life of the "jumbo" jets beyond that of present aircraft. Northwest Airlines, for example, will depreciate the 747 over eighteen years, a radical departure from their current policy of ten years on the existing air-

³⁶Pan American World Airways, Inc., Prospectus for Issue of 5½% Convertible Subordinated Debentures, February 13, 1969, p. 14.

³⁷Clell Bryant, "Ready or Not, Here Comes Jumbo," Time, January 19, 1970, p. 52.

craft.³⁸ In other areas the industry is also finding costs are increasing faster than anticipated thus causing executives to re-examine their earlier optimistic position.

...the jumbo jets offer a significant advance in size only. For instance, the speed of the 747-600 m.p.h.- is only slightly higher than that of current jets. And its operating costs, at least initially, will be higher. "There's a feeling that this (plane) is going to be the pncea for our economic situation," says F. C. Wiser Jr., president of TWA. "I can't quite agree with this."³⁹

In addition to the higher initial operating costs of the 747 the expected growth in air travel has not materialized as yet. This, most likely, is a result of a slowing economy, increased fares, and airport congestion both on the ground and in the air. There will undoubtedly be a period of marginal utilization of the wide bodied aircraft until these problems are solved.

The wide bodied aircraft, namely the Boeing 747, the Lockheed L1011, and the McDonnell Douglas DC-10, are entering the market at a poor time. Our economy is slowed by tight money and inflation, resulting in decreased passenger traffic. Earnings for the 12 largest carriers dropped 36 per cent from 1967 to 1968, and again dropped 43 per cent from 1968 to 1969. During 1969 Eastern, Pan American, Western, and TWA have stopped paying dividends as a result of deteriorated earnings.⁴⁰ This decidedly unfavorable trend is also reflected in the rate of return on investment. In 1967 the rate of

³⁸R. J. Phillips, Vice President-Comptroller, Northwest Airlines, private interview in his office December 30, 1969.

³⁹Pinkerton Jr., "Financial Woes of Airlines," p. 1

⁴⁰Ibid.

return for major airlines was 7.7 per cent, dropping to 5.3 per cent in 1968,⁴¹ and again dropping in 1969 to 3.7 per cent.⁴² What makes this problem particularly acute, is the fact, almost every other sector of the economy showed some growth over the same period. A partial cause for the decline in revenue is the current reduction in Material Airlift Command (MAC) contracts with the government. During the late sixties this provided a lucrative source of revenue for many carriers, but as the Viet Nam War began to wane troop transport and military cargo traffic to Southeast Asia decreased also. Many carriers purchased additional capacity to meet this need and now find themselves in a precarious position, having to switch their productive assets to other areas. This added capacity, as result of lost government contracts, will add to the industries' already enormous economic problems. A comparison of results for the year ending March 1968 with the year ending March 1969 will point out the serious nature of their dilemma.

Ton Mile Traffic	Up	13%
Operating Revenues	Up	12%
Operating Expenses	Up	16%
Earnings After Taxes	Down	43%
Rate of Return on Investment	Down	34%
Revenue Ton Mile Yield	Down	1%
Margin of Unit Revenue Over Unit Cost	Down	34%

⁴¹Civil Aeronautics Board, Air Carrier Financial Statistics, December 1968, (Washington, D.C.: Government Printing Office, 1968), p. 31.

⁴²Pinkerton Jr., "Financial Woes of Airlines," p. 1

Margin of Actual Versus
Breakeven Payload⁴³

Down 35%

The current difficulties have not come unexpectedly as many financial managers could already see the writing on the wall in November 1967. In June 1968 a spokesman for the Air Transportation Association of America (ATA) stated,

If they (adverse trends) continue, the financial posture of the industry and the services it provides in the public interest could be threatened.

At their meeting in the spring of 1969 the ATA released the following statement:

Since June of last year the situation has deteriorated further, reaching the critical point. The domestic fare increase, averaging 3.8% for the trunk carriers, that was approved effective late February is providing some relief. Based upon financial results so far this year and forecasts for the period ahead, the financial outlook of the industry still, however, is a subject of serious concern to the industry's management.⁴⁴

As an immediate solution to their financial difficulties the airlines sought and received, in addition to the 3.8 per cent increase in February 1969, another fare increase for about 6 per cent in the fall of that year. This, most likely, will provide some immediate financial relief, however, the 3.8 per cent boost in the first part of the year was probably eliminated by inflation by the end of 1969. For some carriers the total increase in rates, by approximately 10 per cent in 1969, was not sufficient. Continental Airlines, for example, has already requested another 4.6 per cent hike on

⁴³Economics and Finance Department, Outlook 1969-1973. Slide 4.

⁴⁴Economics and Finance Department, Outlook 1969-1973, p. 2

some routes effective April 15, 1970⁴⁵ The industry poses several arguments for their increased rates. One popular defense goes as follows:

In 1934, back when the airlines of this country first started coast to coast service, the price of a round trip ticket between Washington, D.C. and Los Angeles was \$273.60 and the trip took two days each way. Today, the round trip jet coach fare for the same trip is exactly forty cents more-\$274-and the trip takes five hours.⁴⁶

This is a very shallow defense for their position, but it does point out the industry's efforts to keep fares down, and at the same time provide fast, economical transportation.

In requests to the CAB for fare increases or authorization of new routes airline executives know they cannot rely entirely upon logic from the Board, as politics weigh heavily on their decisions. The members of the Board are appointed to their position by the President for a six year term. Currently there are three Democrats and two Republicans as members. By law they are the approving authority for domestic fare increases and new domestic routes.

For routes to foreign countries U.S. Presidential approval, in addition to CAB approval, is required. A recent case involving Continental Airlines points out the political difficulties an airline may encounter in a route dispute. Late in 1968 President Johnson awarded a major trans-Pacific route to Japan to Continental. President Nixon, shortly after taking office, recinded the directive before it became effec-

⁴⁵Pinkerton Jr., Financial Woes of Airlines, p. 10.

⁴⁶Burkhardt, Diminishing Dollar, p. 62.

tive and ordered CAB to select a carrier which would serve Japan from the East Coast. This is a Presidential prerogative but its effect upon the airline can verge on disaster since the airline must have the capability to meet the new route requirements prior to making the request. Many times this necessitates the acquisition of much additional equipment, and as a result, aircraft the airline had originally purchased for the requested route, are being under utilized.

Another factor reducing revenues is the burden of a marginal route. The problem was compounded further during 1969 when the CAB awarded an unprecedented number of new routes. Most of the new routes awarded were in direct competition with another carrier, which many times, means just another marginal route.

Prior to last year, only three carriers, Pan Am, United and Northwest served Hawaii from the mainland. But now Braniff, Western, Continental, TWA and American have been certified as well. As a result, Pan Am's share of the Hawaii traffic has plunged to 25% from 52% in the past year and the carrier has cut its number of weekly flights by 23%.⁴⁷

A revenue producing source which has yet to be fully exploited is freight transportation. With the advent of the wide-bodied aircraft all possible avenues of aircraft utilization must be found. Recent trends indicate such utilization might be lucrative, however our outmoded, horse and buggy airports must first catch up to the technology of the aircraft to make such use economical.

⁴⁷Ibid.

Airport congestion has been one of the great limiting factors in the growth of the airline industry in recent years. People traveling in and out of population centers are forced to fight traffic driving to the terminal, then after parking their car, must walk miles to the boarding gate. After boarding the aircraft the passenger is subjected to unnecessary delays awaiting take-off, and in some cases, spends many apprehensive minutes in the traffic pattern at his destination while the pilot attempts to get clearance to land. People attempting to make scheduled appointments sometimes find it virtually impossible to be on time if they must travel by air.

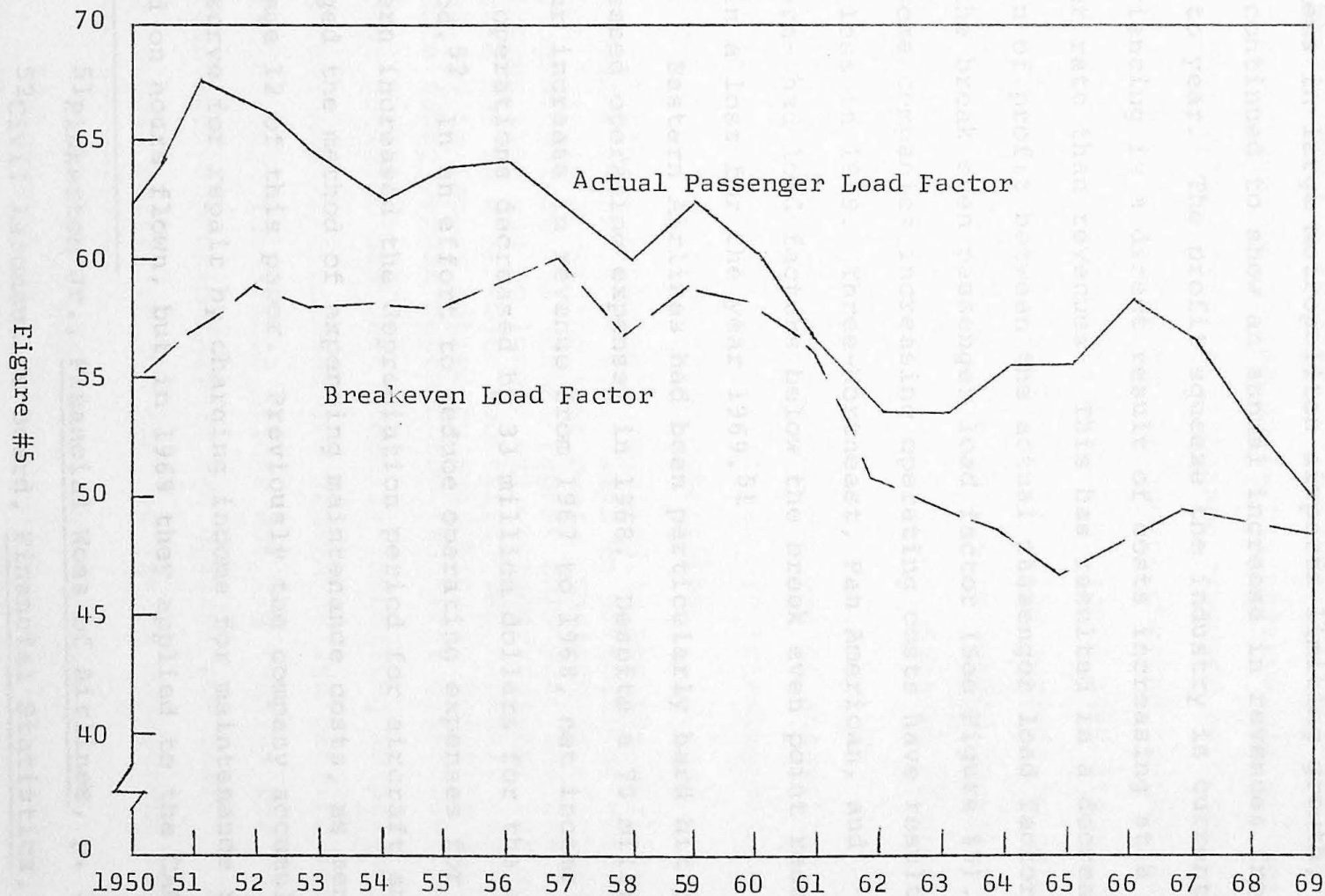
The purpose of air transportation is to save time. This purpose is not served when passengers must wait interminably in terminals: When modern jet aircraft creep at 5 miles per hour in a long line waiting for take-off; when it takes longer to land than it takes to travel between cities--or when it takes longer for the air traveler to get to an airport than it does to fly to his destination.⁴⁸

To reduce the chronic congestion encountered on the ground and in the airways around large cities the Nixon Administration has proposed the Airport-Airways Development Act. Approval of the measure would authorize expenditures of 15.6 billion⁴⁹ dollars to modernize and expand the nations airport systems during the 1970s. Improvements brought about by this measure

⁴⁸Richard P. Kleeman, "Solutions to Nation's Air Transportation Problems Seem to Be in Sight," Minneapolis Tribune, January 18, 1970, p. 14, as quoted from a speech by President Nixon.

⁴⁹Ibid.

MAJOR U.S. AIRLINES
ACTUAL AND BREAK-EVEN PASSENGER LOAD FACTORS
1950-1969⁵⁰



⁵⁰Economics and Finance Department, Outlook 1969-1973, Slide 16.

will enable better use of the wide-bodied jets not only for passenger traffic, but for cargo transportation as well.

Despite the fact airlines are faced with enormous problems in large metropolitan airports limiting growth, they have continued to show an annual increase in revenues from year to year. The profit squeeze the industry is currently experiencing is a direct result of costs increasing at a faster rate than revenues. This has resulted in a decreasing margin of profit between the actual passenger load factor and the break even passenger load factor (See Figure #5). For some companies increasing operating costs have resulted in a loss in 1969. Three-Northeast, Pan American, and Western- had load factors below the break even point resulting in a loss for the year 1969.⁵¹

Eastern Airlines had been particularly hard hit by increased operating expenses in 1968. Despite a 70 million dollar increase in revenue from 1967 to 1968, net income from operations decreased by 33 million dollars for the same period.⁵² In an effort to reduce operating expenses for 1969 Eastern increased the depreciation period for aircraft and changed the method of expensing maintenance costs, as mentioned on page 12 of this paper. Previously the company accumulated a reserve for repair by charging income for maintenance repairs based on hours flown, but in 1969 they applied to the CAB for

⁵¹Pinkerton Jr., Financial Woes of Airlines, p. 1

⁵²Civil Aeronautics Board, Financial Statistics, p. 6

permission to expense maintenance costs directly, which the CAB granted. During the period of transition the company charged all maintenance expenses to the reserve account until the account was eliminated. As a result no overhaul expenses were charged against income while the reserve was written down. Thus their actual maintenance expenses reported for 1969 will be understated by the amount charged to the reserve account. Proper accounting technique would have dictated charging the reserve accumulated in prior periods to retained earnings. As a result of this change in recording maintenance costs Eastern improved its earnings per share by 31 cents for 1969.⁵³

In addition to making maximum use of accounting techniques to reduce costs most airlines are trimming all unnecessary expenses from their operations.

"Anything that isn't required to run the airline on a competitive basis is out," says an official at Western, which lost 12.2 million last year. Western is eliminating photographs from its annual report this year and has told salesmen they can no longer buy customers dinner but must settle for an after-work cocktail. TWA recently saved \$450,000 in import duties by switching to domestic china from a fancy German pattern for its first class customers.⁵⁴

The cost of labor has been steadily increasing as pilots, mechanics, and stewardesses are demanding and getting record pay increases. The senior pilots who fly the 747 for Pan American earn approximately 58,000 dollars per year.⁵⁵ With the continual spiral in the cost of living management can

⁵³Alschul, '69 Earnings, pp. 41-56.

⁵⁴Pinkerton Jr., "Financial Woes of the Airlines," p. 1

⁵⁵Bryand, "Here Comes Jumbo," p. 56.

expect further demands from the unions. Most other areas of operating costs have been continually rising also; fuel costs, landing fees, and maintenance expenses have all increased.

The airline industry has, in effect, laid all chips on the table betting on the acceptance of new aircraft by the traveling public and a proportionate increase in passenger travel. The immediate outlook, though, is for a few years of costly over capacity. However, if industry growth follows the long range forecast, the economies of the 747, when carrying an expanded load, should enable the industry to earn more profit out of the increase in traffic. This assumption is predicated on lower cost per passenger when carrying the increased load. The Federal Aviation Agency (FAA) predicts, "...106 billion miles flown in 1968 will nearly double by 1974 and more than triple by 1979. By then, more than a million people a day will be boarding airlines."⁵⁶ Industry executives judge this current era of decreasing profits to be the transition period from the smaller aircraft to the larger ones. They consider the decreased passenger load factor to be only a temporary situation. R. J. Phillips, Vice President of Northwest Orient Airlines, "Industry analysts are looking for a turn around by the end 1970. I think they are right."⁵⁷

⁵⁶Kleeman, "Solutions...In Sight," p. 14.

⁵⁷Phillips, "Interview."

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